Gleanings in Bee Culture

ESTABLISHED 1873

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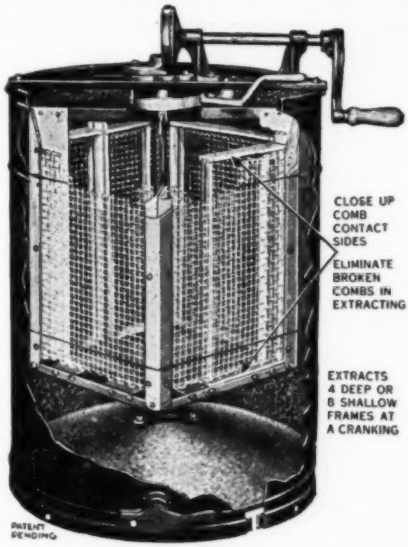
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The Monthly Honey Market

U. S. DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics
Information from Producing Areas (First half of November.)

California Points: Southern California—Weather has been generally clear with temperatures averaging below normal. Precipitation has been very light and rainfall to date is four inches less than that of last year to this time. Bees occasionally bring in pollen, but brood rearing has practically ceased, and little sealed brood is in the colonies. Eucalyptus trees are budded very fully, indicating a good bloom during the coming months. Many beekeepers are holding their honey for higher prices but stocks are said to be adequate with the exception of orange. Prices have been rather unsettled, and with a wide range. Sales in ton lots or more, per lb.: f. o. b. southern California delivery points: orange, extra white to water white, very few sales, 6-6¼c; white, 5¼-5⅞c; sage, water white, 5½-5⅝c; few, 5⅞c; extra white, 5¼-5¾c; mostly around 5½c; white, 4½-4¾c; some sales high as 5c; buckwheat-sage, light amber to extra light amber, 4½-4⅝c; some, 4¼c. The market on beeswax has been steady with limited demand reported from the East. Buyers have been offering 17-17½c per lb. delivered Los Angeles, fancy capping wax high as 18c per lb.

Pacific Northwest: West of Cascades—The weather was the coldest of record for late October and early November and probably damaged honey plants, which were green later than usual because of the mild, wet fall. Colonies are normal, with ample bees and stores, except that late swarms will need feeding. Five inches of snow have already covered the Willamette Valley. The fireweed crop appears lighter than first estimated. White fireweed, 6c per lb. Beeswax, 16½-17½c per lb.

Intermountain Region—Most large lots of comb honey have now been sold and stocks of extracted are rapidly lessening. The market is advancing on remaining lots, though price cutters still occasionally sell for less. Carlot sales of white to water white extracted reported ranging from 5⅛c to 5¾c per lb., with an occasional car at 5c; ton lots mostly 5-6c; some up to 7½c per lb.; 60s, 6-8½c; small pails, 8-8½c; few, 10c; extra light amber, 1 car, 5c; ton lots, 4½-5c; light amber 60s and larger, 5¼-6c; small pails, 6½-8c; small pails blended honey, ton lot, 7c per lb. Comb honey has ranged in price from $2.00-2.75 per case, according to color and grade. The market for beeswax is fully firm, but the price shows little change from the previous figure of 16-17c per lb.

Plains Area: Red River Valley of Minnesota and North Dakota—Beekeepers appear to be increasingly interested in outdoor wintering of bees. The past two weeks have been cold, with a blanket of snow, and many hives are yet unprotected for winter. More moisture is needed to put honey plants in good shape for next year. Most colonies went into winter fairly well

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CLOVER comb, 14 oz. or more, $3.00 case. Clarence Engle, Kearneysville, W. Va.

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SOUR HONEY? Can use several tons og No. 1 white (sour) honey. Also No. 1 (sweet) comb honey. What have you? Daniel A. Nellis, 2216 Pierce St., Flint, Mich. Ph. 3479D.

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NOTICE TO MEMBERS

The American Honey Producers' League has just received an inquiry for 25,000 pounds of white and 25,000 pounds of water white honey, payable cash on delivery. This honey is desired in shipments of about 5000 pounds each, and the buyer requires as much as 10,000 pounds per month. We would be glad to put members who have honey for sale in touch with this market, and members who wish to do so may list their honey with the Secretary, so that future inquiries of this nature may be taken care of promptly. Please state the total amount of honey you have for sale, how it is packed, price desired, and also please submit a fair sized representative sample so that it may be forwarded to the buyer. The League assumes no responsibility for transactions of this nature, aiming only to put its members in touch with buyers; the details of such transactions will be worked out direct between our member and the buyer.—Arlene Weidenkopf, Secretary-Treasurer, American Honey Producers' League, P. O. Box 2020, University Station, Madison, Wis.

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stocked with honey and pollen and plentifully supplied with young bees. As stocks of honey lessen the market price has been advancing. Recent large lot sales reported of white extracted at 6-6¼c per lb., including 1 car at 6c: small pails, 7½-8c per lb.

Summary.—The weather has continued abnormally warm over the eastern half of the country, and abnormally cold in the western United States, with below-freezing temperatures extending to the coast in the Northwest and with heavy to killing frost in the Sacramento and San Joaquin valleys of California. Snowfall has already been fairly heavy over much of the Rocky Mountain region and rainfall has been substantial over much of the East and South. Packing for winter has been about completed, though where bees are to be placed in cellars many beekeepers are waiting for a little colder weather. Most colonies appear to be strong in bees and commercial beekeepers generally have adequate stocks of honey, though stores are often light in the yards of farmer beekeepers. The abundant fall rains have placed honey plants in exceptionally good shape, except in parts of the Plains and Intermountain states which are still too dry. Stocks of comb honey are extremely light everywhere. Inquiries for extracted honey have continued numerous and many areas in which beekeepers usually keep their stocks until later in the season are now completely sold out. The market is firm and many beekeepers have advanced their quotations during the past few weeks. The country as a whole is more nearly cleaned up of honey than has been true at mid-November for many years.

Monthly Report of Honey Producers

Early in November we sent the following questions to honey producers: 1. What per cent of the honey produced in your locality has already left the hands of the producers? Give answer in per cent. 2. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality during the past month for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 3. What are prices when sold to grocers in case lots of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per case? 4. What is the retail price to consumers in your locality of (a) extracted honey in 5-lb. pails, or other retail packages in terms of 5-lb. pails? (b) comb honey, fancy and No. 1, per section? 5. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid? 6. What is the condition of colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent. 7. How does the number of colonies to be wintered in your locality compare with that of last year? Give answer in per cent. 8. What is the present condition of honey plants in your locality as compared with the average? Give answer in per cent. The answers received are tabulated as follows:

State. Name.	Pct. sold.	Large lots. Ex.	Large lots. Comb.	To grocers. Ex.	To grocers. Comb.	To retailers. Ex.	To retailers. Comb.	Movement.	Cond. of colo.	No. to be win.	Cond. of plants.
Ala. (H. C. Short)	100	..	..	..	..	.60	..	Fair	100	110	100
B. C. (A. W. Finlay)	..	.10	..	.75	..	.87	..	Rapid	100	100	..
Calif. (L. L. Andrews)	75	.06	..	..	..	.49	..	Fair	100	125	80
Colo. (O. E. Adcock)	60	.06½	3.00	.42	..	.55	.15	Fair	100	100	100
Conn. (A. Latham)	10	..	..	.75	4.50	1.00	.27	Fair	125	100	90
Conn. (A. W. Yates)	..	.07	3.50	.70	4.75	1.00	.30	Fair	100	125	100
Fla. (C. C. Cook)	..	.06	..	.40	..	.55	..	Fair	100	100	100
Fla. (H. Hewitt)	100	..	..	.50	..	.65	..	Fair	100	90	100
Ga. (J. J. Wilder)	75	..	..	.50	..	.65	..	Fair	100	115	100
Ida. (Ryon R. Isbell)	75	.05⅝	2.45	.38	2.95	.49	.18	Fair	110	95	90
Ind. (Jay Smith)	100	..	..	..	..	.65	.15	Slow	100	100	100
Ind. (T. C. Johnson)	..	..	..	.50	3.00	.60	.17	Fair	100	100	100
Iowa. (E. G. Brown)	95	.06	..	.55	3.50	.65	.20	Fair	110	95	100
Kans. (J. F. Garner)	75	.07	2.87	.50	3.60	.65	.20	Rapid	125	100	100
La. (E. C. Davis)	80	.05½	..	.40	..	.55	..	Fair	100	100	100
Maine. (O. B. Griffin)	60	..	..	..	4.80	1.00	.32	Fair	100	110	100
Md. (S. G. Crocker)	40	..	..	.60	4.00	.75	.25	Slow	80	125	100
Mich. (I. D. Bartlett)	100	.06	..	.45	3.35	.60	.20	Rapid	90	90	100
Mich. (L. S. Griggs)	75	.06½	..	.40	2.50	.50	.15	Fair	50	80	100
Mich. (E. D. Townsend)	90	.07	..	..	..	..	..	Rapid	100	80	100
Minn. (M. W. Cousineau)	..	.06¼	..	.41	..	.48	..	Good	90	90	100
Minn. (F. W. Ray)	70	.06¼	3.00	.40	3.50	.49	.21	Fair	100	100	100
Minn. (B. L. Morehouse)	20	..	..	.50	..	.65	..	Fair	90	85	75
Nev. (G. G. Schweis)	..	.05	2.50	..	..	.47	.15	Fair	100	100	100
N. Y. (Adams & Myers)	90	..	..	.50	3.60	.75	.20	Fair	60	100	100
N. Y. (G. B. Howe)	75	..	..	..	3.00	.60	.27	Fair	100	75	80
N. Y. (F. W. Lesser)	80	.07½	..	.48	..	..	..	Rapid	100	110	90
N. Y. (N. L. Stevens)	90	..	..	.45	..	.60	..	Fair	90	100	100
N. C. (W. J. Martin)	90	.07	..	.70	..	.85	..	Fair	90	100	100
Ohio. (F. Leininger)	100	.06½	..	..	..	..	..	Fair	80	100	125
Ohio. (J. F. Moore)	70	.07	3.00	.50	..	.65	.18	Fair	90	100	90
Ohio. (R. D. Hiatt)	75	..	..	.55	3.60	.70	.20	Fair	95	115	125
Okla. (C. F. Stiles)	60	..	..	.47	..	.67	..	Fair	95	105	100
Okla. (C. A. Baltzley)	100	.06¼	3.00	..	3.50	.66	.20	Rapid	100	80	100
Ore. (H. A. Scullen)	20	..	..	.40	..	.55	..	Slow	100	100	..
Pa. (H. Beaver)	60	..	..	.50	3.10	.65	.17	Rapid	100	110	90
Pa. (D. C. Gilham)	30	..	..	.70	3.75	1.00	.25	Fair	100	125	100
Pa. (H. B. Kirk)	..	..	..	.65	3.25	.80	.20	Fair	90	100	95
S. C. (E. S. Prevost)	80	..	..	.62½	..	.75	..	Fair	90	100	100
Tenn. (J. M. Buchanan)	65	..	..	..	..	.75	.20	Fair	100	100	90
Texas. (T. A. Bowden)	40	..	..	.45	..	.55	..	Fair	100	90	100
Texas. (H. B. Parks)	50	.05	..	.35	..	.50	..	Fair	100	110	100
Texas (J. N. Mayes)	80	.05	..	..	..	.40	..	Fair	100	90	..
Vt. (P. Crane)	75	..	3.75	.70	4.12	1.10	.27	Fair	95	120	90
Wash. (G. W. B. Saxton)	25	.06	..	.42	..	.49	..	Fair	100	100	100
W. Va. (W. C. Griffith)	..	..	..	.45	..	.59	.15	Slow	100	125	100
Wis. (N. E. France)	50	..	..	..	..	.55	.18	Fair	100	..	90
Wyo. (E. C. Reed)	100	..	..	.45	..	.55	..	Fair	75	90	25

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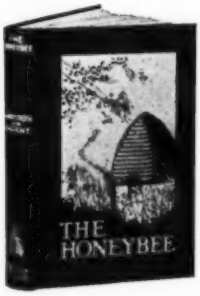

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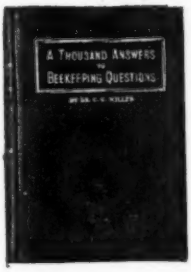

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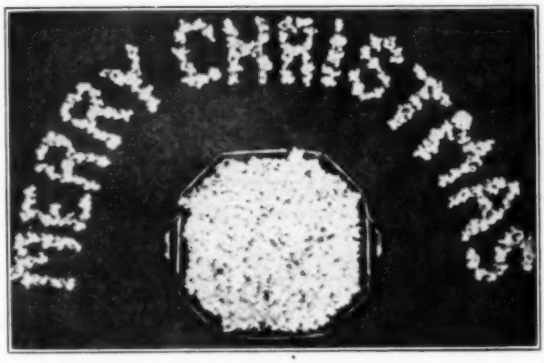
Gleanings in Bee Culture

December
1935

Holiday Delicacies

MRS. BENJAMIN NIELSEN



Distinctive Dainties Help to Solve the Gift Problem

This happiest season of all the year is always attended by intense activity and last minute preparations. So many, many things must be done the day before Christmas, for everything must be fresh and just so! But by preparing these delicious goodies the honey-way, preparations may be made some little time in advance of this busy time and the delicacies tucked away. For time actually adds to the flavor of candies, cakes and cookies in which honey has been used, making them even better than when freshly made.

Let honey confections help solve the gift problem. An attractive box of novel, assorted cookies or a clever container artistically packed with candies make an appropriate gift for old or young. Try packing cookies in a pretty cookie jar or caddy, which may be used afterward. Candies may be arranged in aluminum molds which may be used in molding salads later on. Then, too, odd-shaped dishes and vases make most attractive and useful receptacles. Gayly colored wax papers, dainty lace doilies and sparkling, colored cellophane offer an almost limitless range of packing and wrapping possibilities.

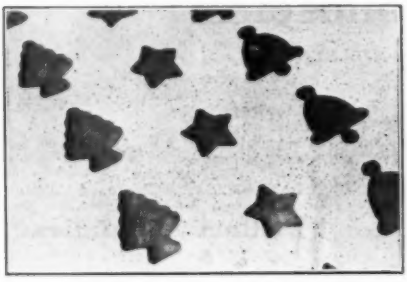
Gift cookies should be dainty and appealing to the eye—preferably small and uniform in size. Cut rolled cookies with fancy cutters, or, lacking these, with a sharply pointed knife one may cut around cardboard shapes placed on the dough. Honey ice-box cookies may be molded in any form and sliced thinly. Form drop cookies with a teaspoon and flatten them with the bottom of a glass dipped in granulated sugar for each cookie.

Perhaps you have your own favorite recipe for honey cookies. If not, assemble: Three-fourths cup shortening, 1 cup honey, ¾ cup brown sugar, 1 egg, ½ cup water, 1 teaspoon ginger, ½ teaspoon cinnamon, ½ teaspoon nutmeg, ¼ teaspoon salt, 1½ teaspoons soda and about 4½ cups of flour.

Cream shortening and brown sugar thor-

oughly, add beaten egg and honey. Sift and measure flour; add soda, salt, and spices to flour. Add water and enough flour to make dough easy to handle but not too stiff. Roll out to ⅛ inch in thickness and cut in desired shapes. Place well apart on greased cookie sheets as they puff considerably in the baking. Bake about 12 minutes at 400 degrees F.

Trees, stars, bells, wreathes and canes are the symbols of the season. Give each a fluffy coating of honey icing, colored any desired tint by the addition of liquid



Honey cookies ready for decorating.

vegetable coloring or leave white and sprinkle with colored sugars or bright cake candies. Frost trees with pale green and sprinkle with tiny candies or leave white and decorate with green shredded cocoanut tinted with vegetable coloring. Frost canes with white, then add diagonal red lines; bells should be red, stars white with glistening wisps of cocoanut. Wreaths are white or green sprinkled with bright decorating candies and topped with a bright red bow. Possibilities are endless!

Children will adore honey cookies in the form of Santa Claus men. After baking, coat with red honey frosting, outline fur trimmings with the white honey frosting, not forgetting the white pom-pom on the hat. Then add the last realistic touch by securing a Santa face sticker in place beneath the cap with a bit of honey or frosting.

Try slipping a piece of fine wire through the top edge of any of these shapes and attaching them to the tips of the boughs on the Christmas trees for ornaments. They will make your tree delightfully different!

If they are to be used as gifts they should be thoroughly chilled and frosting set before packing is attempted.

There must be some honey popcorn balls, too. For these you will need: One cup honey, 1 cup brown sugar, 1 tablespoon butter, ½ teaspoon salt and 1 tablespoon vinegar. Cook together slowly until a few drops tried in cold water are brittle. Drizzle over freshly-popped corn and form quickly into balls. A generous coating of butter on the hands will prevent the corn sticking to them. Wrap in waxed paper or various colors of sparkling cellophane, leaving a generous length to twist at the top. Hang a few of these on the tree as ornaments.

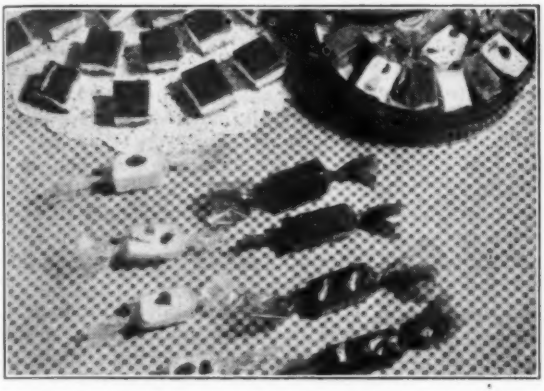
If you would try something crunchy and delicious, shell roasted peanuts, stir them about in a saucepan on top of the stove until they are a rich golden-brown. Combine and boil to crack stage without stirring: one-third cup honey, 1 cup granulated sugar and 1 cup water. Pour this syrup over 2½ cups of toasted peanuts. Press the glazed nuts lightly into small cones, wrap in yellow cellophane and dangle from the Christmas tree.

What huge quantities of candy children—grown folks, too—consume at the holiday season! Try these healthful honey candies and see if the demand doesn't continue right through the year.

Honey Divinity calls for: two cups sugar, ⅓ cup honey, ½ cup water and the whites of 2 eggs. Combine sugar and water. Boil until a few drops tested in cold water form a firm ball. Add honey and boil to crack stage. Drizzle the hot mixture very slowly over the stiffly beaten egg whites, beating continuously. Continue beating until mixture will stand alone. Drop on waxed paper or spread on buttered plates and when set cut in bars or squares. By adding nuts, candied pineapple, red or green candied cherries, or by dividing the batch into several parts and adding vegetable colorings, a nice variety may be secured. Add toasted whole almonds just before spreading and cut into long bars; when thoroughly set, dip in milk chocolate melted over hot water.

For Honey Chocolate Caramels assemble: One cup honey, ½ cup butter, 2 squares chocolate, 1 cup sugar, 1 cup corn syrup, ⅛ teaspoon salt, 1 can sweetened, condensed milk and 1 cup chopped nut meats.

Boil the can of milk, unopened, for 2 hours, keeping can well covered with water. Open can and combine contents with grated chocolate, honey, corn syrup, sugar, salt and butter. Boil slowly in a heavy



Assortment of cellophane wrapped honey candies. Makes an attractive and acceptable gift.

iron skillet, stirring constantly until a few drops of the mixture form a firm ball in cold water. Remove from fire, add nuts and pour into buttered pan. Chill and cut, wrapping each piece in heavy waxed paper. Brazil nuts are delicious in this recipe.

Honey Lollipops will prove a popular as well as a beautiful treat for the children. These are made with one-half cup dates, ½ cup dried apricots, ⅓ cup dried prunes, ½ cup raisins, and ¼ teaspoon salt.

Cover dried prunes, apricots and raisins with boiling water. Let stand 5 minutes. Drain. Run all fruit through a food chopper, using medium knife. Add salt and honey. Hold in balls and roll in chopped nuts or cocoanut. Insert sticks for lollipops or wrap in cellophane.

Aurora, Nebraska.

Try Exploitation

EMORY WARD

A Clever Method to Popularize Honey and to Sell One's Crop Profitably

Every alert beekeeper is aware of the truth in the well-known statement, "It pays to advertise," but the financial status of the average beekeeper is seldom able to bear out the expenses necessary to conduct an extensive advertising campaign, even though gratifying results are most certain to be attained. As a result, the beekeeper gives a sigh of regret at his inability to indulge in such a profit-assuring investment, and settles back to his old style of hit-and-miss honey marketing.

It is true that an organized advertising campaign is an expensive undertaking, but there are forms of advertising other than the well-known "paid advertisements" in newspaper and magazine space costing a small fortune to purchase. There are some forms of advertising which will bring the beekeeper financial success at no cost other than a little ambition and a willingness to co-operate with the local newspapers and magazines.

Such advertising finds its way into each issue of the newspapers in all sections of the country as press agentry, or exploitation. The movie celebrities of Hollywood have found this form of advertising so valuable that they hire experienced press agents to keep them publicized before the public. All of the larger companies have a staff of publicity experts, or public relation counsellors to keep the name of the concern and its product known to the public. In the language of the street, it is glorified ballyhoo, or going to town in a big way. But by its proper use, the beekeeper can satisfactorily promote his product and increase his sales. The success of this type of advertising, however, will depend upon the individual's genius of suggestion.

Increases Honey Sales 200 Per Cent

Several years ago a beekeeper in a small Michigan town prepared a series of articles on the life of the honeybee and

offered them to the local newspaper for use free of charge. The first few articles described in an interesting manner the life within the hive, and the last of the series was cleverly used to demonstrate what a healthful food honey is. Along with the series, the beekeeper purchased smalls ads announcing just where the readers could get their supply of "Nature's Sweet." As a result of his adventure into promotional advertising, this beekeeper increased his business close to 200 per cent within fifteen days.

Another beekeeper in an Indiana town utilized free newspaper exploitation in a similar manner to increase his honey profits. He made it a special point to see that at least once each week his local paper carried some news story in which "honeybee" or "honey" was mentioned. Each week he supplied the newspaper office with at least one news story related in some manner to beekeeping. One week it was a straight news story of an extra large swarm caught on a nearby farm; another week it was the announcement of a beekeepers' meeting in a neighboring town; perhaps it was an account of the honey crop possibilities for the next year, or the report of recent findings by the State Agricultural Experiment Station concerning honey production. When all other sources of bee news failed, he could always turn to the woman's page and supply a tested recipe in which honey was a necessary ingredient.

The financial results of these short news articles were found to be well worth the time necessary to prepare them. The entire population of the beekeeper's town soon became aware of the value of honey as a food, and with an increasing demand for honey came a similar increase in the beekeeper's profits.

Paid Ads Supplement News Items

In both of the cases cited, however, the beekeepers used regular paid advertisements to supplement this free advertising. The promotional news items urged the readers to buy honey, and the paid advertisements persuaded them to buy one particular brand of honey. It was a tie-up in which each form of advertising was used to supplement the other.

One prominent advertising authority has declared that this type of exploitation is the most successful form of advertising because it presents advertising matter in such a way that it appears to be news. The majority of newspapers are receptive to mild forms of exploitation so long as they contain news value, but in all newspaper offices, straight propaganda in any form is rightfully banned. The beekeeper must remember, however, that out of courtesy to the newspaper, as well as to supplement the free advertising, some regular paid advertising should likewise be done at intervals, depending upon the frequency with which the free promotional articles appear.

If the beekeeper decides to engage in this form of honey exploitation, he can find his subject matter spread abundantly about him at all points. Creative or writing ability is not necessary—the newspaper staff will care for that—but success along this line is measured by the beekeeper's ability to find new ideas—new stunts.

Interesting Material Accepted by Newspapers

The newspapers—especially the smaller country publications—are generally willing to print the material if the beekeeper can supply it to them. Several stories were discovered in the files of a country publication and may serve as a suggestion to publicity-minded beekeepers. The subject matter of these stories included: a large swarm captured near the city limits; an unusually large production from one colony; the drouth and its effect upon honey production; an account of a local beekeeper who shipped a carload of honey to a large city market; the announcement by the state agricultural college that each acre of orchard should have several colonies of bees for adequate pollination; the local doctor who advises the use of honey as a "health sweet"; and innumerable recipes in which honey is necessary for proper preparation.

The main problem in this form of promotional advertising is to make the people read it, and to this end, illustrations and photographs go far to gain reader attention and to enhance the value of the article. The beekeeper who possesses the ability to hit upon new ideas and present them to the local newspapers in a clear, concise form is certain to find success in his promotionl advertising, and with his success will come a universal demand for honey.

The beekeeper must remember, however, that the chief goal for honey exploitation

is to sell the idea of honey as a health food to the American people. The task of selling his particular brand of honey is strictly a matter for paid advertising, but by promoting a demand for honey in general, he similarly creates an increasing demand for his own particular brand. And by this last achievement his financial success is assured.

Toledo, Ohio.

"Purple Brood" of Bees

C. E. BURNSIDE
Assistant Apiculturist, Bureau of Entomology and Plant Quarantine, U. S. Dept. of Agriculture.

Plant Poisoning by Southern Leatherwood

In some of the southern states there exists a disorder of bees characterized by death of brood from May to July and a pronounced purple or blue color in many of the affected larvae. The disorder has been referred to as "purple brood." Since this name seems to be an appropriate one the writer suggests that it be adopted.

Symptoms

Purple brood comes on suddenly late in May or early in June. In severe cases practically all the colonies in affected localities develop symptoms of purple brood at about the same time. Brood continues to die for about a month before the disorder subsides. Affected brood is removed by the adult bees but in badly affected colonies a great deal of dead brood accumulates in the combs. The usual effect of purple brood is slight to serious weakening of the colonies caused by loss of brood. Colonies usually recover but the honey crop may be considerably reduced.

Death of the brood usually occurs during the larval stage. The dead pupae are some times found. The most characteristic symptom of purple brood is the purple color of affected larvae. The shades of color vary considerably but a purple color is usually pronounced in some of the older larvae.

Cause of the Disease

Observations and experiments of the writer indicate that purple brood is not an infectious disease. Usually few or no bacteria are found in microscopic mounts prepared from affected larvae. When nutrient agar slants are inoculated with the body fluids or tissues from affected larvae the slants either remain sterile or microorganisms are obtained that are not pathogenic for brood of bees. In attempts to transmit purple brood by inoculating colonies of bees, only negative results were obtained. These inoculations were made by macerating larvae sick or dead of purple brood in a small quantity of water. The macerated larvae were fed to colonies of bees in dilute sugar syrup and a water suspension of the dead larvae was sprayed over combs of developing brood. None of the larvae in the inoculated colonies were noticeably affected.

The simultaneous appearance and disappearance of purple brood in practically all colonies in affected territory also indicates that it is due to causes other than disease.

R. E. Foster, State Apiary Inspector of Florida, has made extensive observations on purple brood in that state and obtained evidence indicating that purple brood is caused by plant poisoning. The suspected plant is *Cyrilla racemiflora*, locally known as southern leatherwood, black titi, red titi, summer titi, and he-huckleberry. Foster reports that purple brood occurs in Florida only in localities where southern leatherwood grows. Wherever important losses have occurred, southern leatherwood was found to be abundant in the locality. In Florida, this plant starts blooming about the 15th or 20th of May and blooms through June. Brood starts dying of purple brood about the time leatherwood is in full bloom. Most of the cases are found during June. Soon after bees stop working the flowers of leatherwood the high death rate of brood ceases and the colonies recover.

Southern Leatherwood the Cause

The occurrence of purple brood in other states and reports of beekeepers whose

colonies were affected support the assumption that the cause of purple brood is plant poisoning by southern leatherwood.

This plant grows principally along the border of swamps from southeastern Virginia southward and westward to Texas, also in the West Indies and South America. Reports from beekeepers and apiary inspectors and samples of brood sent to the Government Bee Culture laboratory for diagnosis show that purple brood occurs in all the states where southern leatherwood grows most abundantly (except possibly South Carolina), namely: North Carolina, Georgia, Florida, Louisiana, Mississippi, Alabama, and Arkansas. E. S. Prevost, Apiary Inspector of South Carolina, reports that he has never seen purple brood in that state. No samples or reports of purple brood from states outside of the range of southern leatherwood have been received at the Bee Culture laboratory.

This evidence seems to point strongly to poisoning by nectar or pollen of southern leatherwood as the cause of purple brood.

Washington, D. C.

An Unfinished Symphony

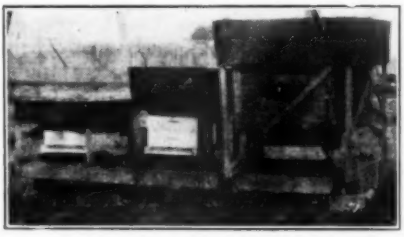
J. H. MERRILL, Ph. D.

Scientific Experiments Conducted to Determine the Importance of Colony Characteristics

(Continued from November)

Bee hives are packed during the winter with an insulating material to conserve the energy of the bees by enabling them to maintain a proper living temperature with less work. Since this is true then this practice of insulating beehives should be advantageous during the summer as well as during the winter. An insulator should protect against not only extreme cold but against extreme heat or any temperature change as well.

A series of experiments was planned to prove the truth of this theory. A number of six-inch mattresses, stuffed with dry leaves, were made so that they could be put on or taken off from hives without in any way disturbing the bees within. The number of bees and the amount of brood in each hive was determined in the spring of the year and then the mattresses were placed around some of the hives while others were left unpacked as checks. At the end of three weeks the mattresses were removed and the number of bees and the amount of brood were again determined in both the packed and unpacked hives. The mattresses were placed on the check hives during the next three weeks' interval and those which had formerly been protected were left unprotected. This exchange of mattresses and determination of bees and brood was repeated every three weeks throughout the entire season.



Hives on platform scales in the open. One one-story hive unpacked, one two-story hive unpacked, one two-story hive packed.

Packing Did Not Stimulate Brood-rearing

Contrary to our preconceived opinion, packing did not stimulate brood-rearing, but acted as somewhat of a deterrent. In no instance did it warrant the expense or labor of using it. This experiment was carried on for only one year, but conversations and correspondence with others engaged in apicultural research showed that they found similar trends.

I believe it is justifiable for a parent to analyze the actions of his children and when possible to offer constructive criticisms. Probably a great many parents will admit that regardless of how successful their children may have been they could

have done even better had they gone a little farther. It is with this thought in mind that I should like to speak about the series of experiments which we carried on to determine the relation of the physical characteristics of the honeybee to its storing ability. In this experiment we examined enough individual bees to satisfy even the most exacting statistician and we formed some very definite conclusions. I am still convinced that these conclusions were correct, but feel that they tell only part of the story.

An Interesting Experiment

We examined and measured the physical characteristics of 6000 individual bees and found that the size of the honey stomach or carrying capacity was the most important individual characteristic. Furthermore, there was a direct correlation between the size of the honey stomach and the amount of honey stored. There was also a correlation between the size of the bee and length of tongue characteristic, but in our experiments these characters were not directly correlated with the amount of honey stored. However, one can visualize conditions under which the length of tongue would be important. E. R. Root early believed that this was a desirable characteristic as will be recalled by those who remember "Root's long-tongued bees." Although there was no direct correlation between the tongue character, size of bees, and honey stored, yet these characters had an important bearing on the length of life of bees in a colony. I once heard Dr. Watson say that now that controlled mating of queen bees was possible we could develop any kind of bee that we desired. A knowledge of the value of individual characteristics are a help to us in planning out this ideal bee. Some of the data secured from these measurements are included in the accompanying tables.

While Table 1 is self-explanatory, perhaps a word or two of explanation may not be amiss. Although the bees in colony No. 1 were small, ranking fifth in size, their honey stomachs ranked fourth and nearly equaled those which ranked third. If each bee in colony No. 1 had had a honey stomach equal in size to those of the bees in colony No. 3, then colony No. 1 would have stored 82.5 pounds instead of the 74.5 pounds which they did store. If all of the bees in this experiment had belonged to a union and each had brought in an equal amount of honey on each of the trips it took to the field, then the bees in colony No. 1 would have stored 77.625 pounds. It is interesting to note that this is not greatly in excess of the amount which they actually did store.

Bees With Larger Stomachs Are Shorter Lived

Another significant feature of the performance of this colony is that, although the bees were small, yet they were able on account of their large carrying capacity to store a creditable amount of honey. The daily death rate of bees in this hive was tremendous, indicating that the combination of a large honey stomach and small bee is advantageous for the well-being of the colony but unfortunate for the individual.

Colony No. 2 stored a total of only 45.75 pounds. Had its bees had average sized honey stomachs they would have stored 58 pounds and if they had belonged to the previously mentioned bee union, then they would have stored 70.5 pounds. These bees ranked third in body size, but were

TABLE 1.

Colony No.	1	2	3	4	5	6
1. Relative size of bees	5th	3rd	1st	2nd	4th	6th
2. Relative size of honey stomachs expressed in terms of percentage	90.4	86.3	100	94.5	92	86.2
3. Number of bees that took part in honey storing up to July 26	55,538	59,292	72,214	71,713	51,428	38,151
4. Total amount of honey stored up to July 26, in pounds	74.5	45.75	104.87	86.5	63.375	27.875
5. Average amount of honey gathered by each bee expressed in grams	.631	.383	.658	.547	.558	.331
6. Amount of honey that would have been stored by each bee if each bee had a honey stomach equal in size to the average stomach of the bees in the largest honey-storing colony	.7	.444	.658	.591	.607	.384
7. Total number of pounds of honey that would have been stored if each bee in the hive had a maximum-sized honey stomach	82.5	58	104.87	93.4	68.82	32.33
8. Total number of pounds of honey that would have been stored if every bee had belonged to a union and had stored an equal amount of honey	77.625	70.5	104.87	104	74.5	55.33

fifth and almost sixth in the size of their honey stomachs.

Bees With Smaller Stomachs Are Longer Lived

Since the bees in this hive had fairly large bodies and small stomachs, their death rate was very low and consequently there was left in this hive at the close of the honey flow, a large number of bees, each possessing considerable unspent energy. These consumed more honey between July 26 and September 26 than did the bees in any other colony in this experiment. This performance necessitates not only a consideration of individual but also of colony characteristics.

Colony No. 4 ranked second in size of bees, second in size of honey stomach, second in length of tongue, and the 86.5 pounds of honey which it stored also ranked second. Had the honey stomachs of its individual bees equaled in size those in hive No. 3, then they would have stored 93.4 pounds, and had they belonged to the union they would have stored 104 pounds. Since colonies No. 4 and No. 3 so nearly equaled each other in their number of bees it is interesting to note that the total amount of honey which they did store is directly proportional to the size of the individual honey stomachs rather than to the number of bees. This would also indicate that when such colony characteristics as the number of bees were equal then if there was a difference in the amount of honey stored it would be proportionate to the size of the bees' honey stomachs.

Colony No. 6 is such a poor tail-ender in every respect that it is valuable only in that it serves to show by contrast what might be expected from a good colony of bees.

From the above table I think we are justified in concluding that individual physical characteristics such as size of bee, length of tongue, and size of honey stomach are all desirable, and now that controlled mating of queen bees is possible these characteristics can and should be standardized.

Importance of Colony Characteristics

A study of Table 2 will show the importance of colony characteristics. These call for the adoption of beekeeping practices which fall within the scope of every beekeeper while the standardization of individual characteristics offers a more fitting problem for the geneticists.

Colony No. 1 had a daily rate of brood-rearing of 1241 prior to the beginning of the honey flow on June 15, which was the second highest rate of any colony in this experiment. This rate decreased to 720 during the 21 days before July 15, which is only as it should be in a properly developed colony of bees that had reached its peak before the honey flow began. The rate of brood-rearing usually decreases in normal colonies as soon as the honey flow starts.

This colony, like any well-regulated colony, developed its peak of population before the honey flows commenced. According to Table 2, the population of this hive had decreased to 11,874 on July 15. However, they had enough vitality to store twelve pounds of honey in the next eleven days.

Colony No. 2 got off to a very poor start in the spring, having an average daily rate of brood-rearing of 982 and did not reach its full strength in bees until some time after the honey flow had begun. Its rate of brood-rearing prior to July 15 rose to 120. This increase may have been due to the balling of a failing queen and the raising of a new one or to some other unknown reason. On July 15 they had stored but 29.125 pounds of honey, but in the next eleven days they increased this amount to 45.75 pounds. When it is seen that 59,292 bees took part in the gathering of this 45.75 pounds, while 53,538 gathered 74.5 pounds in colony No. 1, the first conclusion reached is that the amount of honey stored in these two hives was entirely disproportionate to the number of bees in each. This is understandable when we consider that colony 2 consumed the largest amount of honey after the honey flow ended. This indicated that

TABLE 2.

Colony No.	1	2	3	4	5	6
1. Average daily egg-laying for 21 days prior to June 15	1241	982	1238	1321	1108	857
2. Average daily egg-laying for 21 days prior to July 15	720	1201	459	1115	603	375
3. Number of bees in hive on July 15	11,874	25,250	29,575	34,325	26,250	14,325
4. Honey stored from June 15 to July 15, in pounds	62.5	29.125	85.375	79	55.375	24.875
5. Honey stored June 15 to July 26	74.5	45.75	104.87	86.5	63.375	27.875
6. Bees that produced this crop	53,538	59,292	72,214	71,713	51,428	38,151

a large proportion of those bees had never done enough work storing honey to cut down the length of their lives. They still had enough unspent energy to enable them to continue existence for a long time.

Colony No. 3 was a normal acting colony having a high rate of brood-rearing before the honey flow began, decreasing this when the bees were busy bringing in nectar, and the 29,575 bees which were in the hive on July 15, stored better than 19 pounds in the eleven days before July 26. The bees in this colony, as already mentioned, due to their fortunate physical characteristics, were able to bring in stores with a minimum expenditure of energy. Consequently the percentage of bees that died was smaller in this hive than in any other. It reduced its rate of brood-rearing to 459 prior to July 15 which was fortunate for the colony because it did not mean that there would be a lot of bees left to consume honey after the season ended. It may be of interest to note here that this colony did build up and went into the winter in good condition.

Colony No. 4 was a close second to colony No. 3 in its bees' individual physical characteristics, length of life, and in the amount of honey which they stored.

Colony No. 5 made a moderate start in the spring, was moderate in its activities throughout the season and its total of 63.375 pounds of honey stored was proportionate to the amount stored by colony No. 1 inasmuch as the former colony had a few less bees.

Again colony No. 6 is so low in all of its activities as to bring to mind nothing but the necessity of good beekeeping practices.

One could continue almost indefinitely making comparisons and drawing conclusions from the data in these two tables. At the end he would probably conclude that some characters are not only advantageous to the individual but inasmuch as they have a direct bearing on the length of life of each bee they merge into colony characteristics. When these individual characteristics have been standardized, the beekeeper can then adopt practices which will result in colonies that develop normally and partake in the storing rather than in the consumption of the honey crop. The advantageous individual physical characteristics which have been spoken of here ought to suggest other advantageous characteristics such as prolificness, disinclination to swarming, disposition, and so forth.

Viability of the eggs at first glance would appear to be such an individual characteristic but experiments have shown that the number of eggs deposited by a queen which develop into adult bees depends usually upon the number of nurse bees which are available to rear brood. Prolific queens have been removed from strong colonies and then placed in weaker ones, and vice versa. It was found that the percentage of eggs which developed into brood depended upon the number of nurse bees rather than upon the queen herself. This apparent individualistic character like other apparent individual characters will in most instances be found to be a colony character.

It must, however, be borne in mind that a colony of bees is merely a collection of individuals.

Raynham Center, Massachusetts.

Beekeeping in the Cotswold Hills

A. H. BOWEN

A Few Sidelights on the Past Honey Season in County Gloucestershire, England

The bees have experienced a remarkable season. During the first half, with its thunderstorms almost daily, the teeming population of the hives ate up every ounce of nectar that was gathered and ravenously emptied the feeders.

It was, in fact, colder in the beginning of May, than in January. Then came the disastrous frost of May 17, which destroyed the fruit crop, hawthorn, and sycamore blossom, and blackened the forest trees. So that supers put on early were still deserted.

Then coincident with the "turn of the days," as county folks say, came a glorious change. On June 21 the temperature

"Come under the old umbrella." How a cottager keeps his bees cool.

soared to 74 degrees and nectar began to roll in, chiefly from purple sainfoin, and then the white clover.

The bees did not swarm over much, but called for supers and still more supers of frames and sections. By the end of July, however, the meadows had become parched and brown, and the flow was over. But in the brief space of some six weeks, the colonies produced an average of some 60 pounds which exceeded all expectations. And what is more important the brood boxes were overful of well-ripened honey.

The absence of darker honey allowed

"Condemned bees." How a new lease of life is given. Instead of preparing the sulphur pit as of old, the cottager turns his full stock over to be driven out by the beemaster. Here we see the bees on their way aloft anxious to escape the vibration of "drumming."

the nectar from field flora to be stored in its purity, and we have in consequence honey of such rare brightness and color, not equaled in a quarter of a century of beekeeping observations.

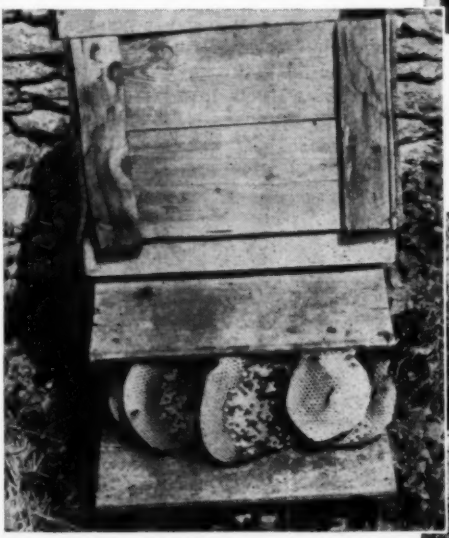
Cheltenham Spa, England.

A beautiful skep stock heavy enough to stand. These fine straight combs are an example of what instinct can do without help of any kind. Notice the smaller circle of dark combs used for brood, and the wide lighter colored combs for honey storage. Incidentally this picture shows the correct manner in which to lift a skep so that the tender combs—even if not supported by cross sticks—will not loosen and drop out.

Cordial Anglo-American relations. We are very proud of our Langstroth and Jumbo hives, as seen tiered up during the flow. We find the larger frames result in enough bees for all conditions, a minimum desire to swarm, and the maximum harvest.

The bees filled and finished combs beautifully white. A spec men lifted from a shallow crate.

During the honey flow, some stocks under-supered and extra strong filled every available space between frames with comb and honey. This is the appearance it had when raised.



A bar frame belonging to a cottager. A temperature of 87 in the shade induced the bees to "hang out" underneath the porch, and fill the space with comb. This the queen occupied, producing nice slabs of brood as shown after the workers had been brushed aside.

The way they do things in the country bee garden. In the words of the beeman "they wouldn't go up." He had bored a hole in the floorboard of the hive and set this over a hole in the top skep, adding additional legs to keep it steady. The bees took a dislike to this plan and swarmed instead.

Finding the Fountain of Eternal Youth

E. R. ROOT

The only papia grove in all Florida not killed by the freeze of last winter. The fruit is seen hanging on the trees. This is only one of the many tropical fruits grown by Mr. J. A. Felts.

When the Doctors Told A. I. Root He Could Not Live, He Found a New Lease on Life in Florida

A. I. Root, the founder of this journal and for eighteen years its editor, was given up to die by the doctors. "He might perhaps live a year by going to Florida," but they as good as told him and us that his days were numbered. But in spite of his doctors' dire predictions, he ran away from his grave to Florida, where he found his "fountain of eternal youth," first at Shumards Island near Osprey and then later at Braden Town, now called Bradenton, about half way down on the west coast. Instead of living "possibly a year," he lived over twenty years in the Florida sunshine among his bees, chickens, and ducks, and "playing" in his garden raising potatoes and other truck for the hotels.

I have covered almost the whole of Florida, but now let me tell you about Bradenton and why A. I. Root selected that as his permanent winter home. Except in the Everglades the soil is deeper and richer there than in most places in Florida. It was on the Gulf and easily accessible by boat and later by train, and besides, some good beekeepers were there —two in particular, E. B. Rood and J. W. Barney. When I called at Bradenton late last spring, although fifteen years had elapsed, they were still living and glad to greet me. They, too, had found the "fountain of eternal youth," and although much younger than father, the years did not seem to make them look older than when I saw them last, fifteen years ago. Mr. Rood, not now a beekeeper, had grown

J. W. Barney, left, and M. C. Engle. The former was an old friend of A. I. Root and an organizer of beekeepers in the early days. The latter, formerly of Cuba, now keeps bees in Bradenton.

up with the city as a business man and a banker.

Mr. M. C. Engle, a beekeeper of Cuba and Florida, I found under his automobile truck engine. Grimy and black from his work, he asked to be excused until he could wash up and put on good clothes.

J. W. Barney, wife and daughter, in the tropical beauty of their bees and fruit ranch near Bradenton, Florida.

Together we called on J. W. Barney, who, with his wife and daughter, is living quietly on his bee and orange ranch where they could enjoy Florida sunshine and make the bees and the orange trees work for them. At one time Mr. Barney was the acting and directing figure head of all beekeeping activities for this part of the state and perhaps for that matter, for the whole state.

That Big Crop of Boys and Girls

Mr. Engle and I next called on Mr. J. A. Felts and family at Parma Sola, where they have a beautiful nursery ranch and where they have not only bees but practically every kind of tropical fruit. I said "family." I don't know how many boys and girls there were taking care of the ranch, a veritable garden of Eden. If the late Theodore Roosevelt were living he would find that father and mother producing not only fruits, flowers, and honey, but the largest and finest crop of boys and girls that can be

J. A. Felts and wife, who have grown a large family of boys and girls who help on their wonderful fruit ranch at Palmo Sola.

found anywhere in the whole country, and they all work. Even mother was out on the place among the flowers and not in the house. Housework? O, yes! the girls pitch in and help mother, and if there was a sick one in the lot I did not see him or her. If that mother's honey cookies were a sample of her other cooking it is no small wonder that they are all well and strong. I have sampled honey cookies all over these United States. I have tasted the best from Europe; but Mrs. Felts can sure carry off the palm, not only for her wonderful brood of boys and girls, but for her honey cookies. I ate one, and then another, and still another, and well—I believe I could have eaten the whole jar of them.

J. A. Felts's home apiary on that piece of land where frosts are practicaly unknown.

"Where did you get the recipe?" I asked.

"From one of your oldest honey booklets." And here it is:

Three teaspoonfuls soda dissolved in two cups warm honey, one cup shortening containing salt, two teaspoonfuls ginger, one-fourth cup hot water, flour sufficient to roll.

This is a recipe that was sent in by my old friend Chalon Fowls, of Oberlin, Ohio. He has recently passed away. His (or their) recipes were always good and I am asking his daughters to send the others. It was they, with their mother, who worked them up, and the father was a good judge of the product.

This garden of Eden is on a peninsula —nearly surrounded by water. No wonder that destructive frosts do not destroy the crops. There was a fine grove of papias, such as were destroyed by the freeze in Miami and the Everglades, but did not injure this one.

Why Bradenton?

Bradenton and vicinity is one of the very best localities in all Florida for growing crops. No. wonder A. I. Root, a lover of gardens, picked out Bradenton for his winter home. No wonder he found here the fountain of eternal youth and that he fooled the doctors by living twenty years longer than they said he could. No wonder Bradenton is growing because it has real soil and a climate that is nearly immune to frosts and hurricanes.

Honey Grape Fruit Juice

A little later I'll tell of another Bradenton enterprise—honey grape fruit juice that is being sent all over the country. Mrs. Root and I have been drinking it all summer. It is nourishing and it is good. My old friend Rood was one of the first to exploit a commercial honey and grape fruit juice sealed in bottles.

Medina, Ohio.

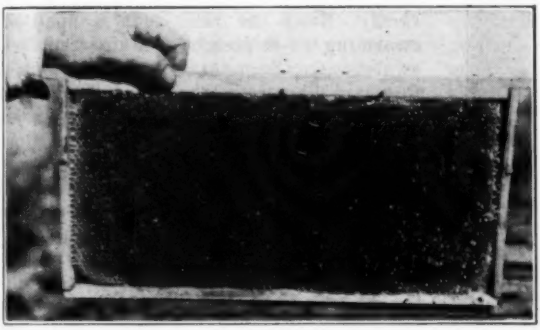
The honey and wax exhibit of Adam Bodenschatz, Lemont, Illinois, took first prize at the Illinois State Fair in 1935.

From the Field of Experience

FERMENTED HONEY IN NEW COMBS

This Has Been a Year of Abnormalities All the Way Through

Visiting Leroy Baxter, at Blair, Nebraska, on September 9, I saw something that I had never seen before—honey in new white combs, perfectly sealed over, as pretty honey as one could want so far as appearances go, fermented until it was decidedly sour. When these combs were uncapped the honey had a suspicious "bubbly" look and it was decidedly sour. If it had been standing around for several months in a damp atmosphere, the trouble could easily have been accounted for.



"Bubbly" fermented honey in a new comb just taken from the hive and uncapped.

According to Mr. Baxter, these frames contained foundation put on the hives June 6, at the beginning of the best honey flow he had ever seen. The supers were removed on September 6, just three months later. Since the combs were drawn from foundation, the bees had every chance to ripen the honey before sealing it. Other supers of drawn comb put on about the same time also showed fermentation.

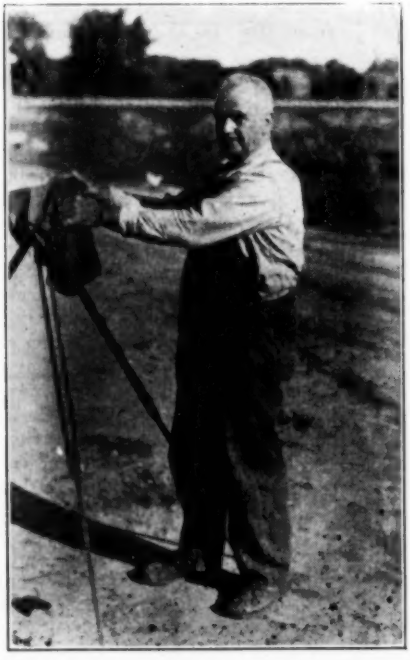
Honey in open cells, no doubt stored later and probably in a dry time, showed no sign of fermentation.

Mr. Baxter noticed a difference between apiaries. In those located where there were good winds he found very little sour honey. There was much rainfall and the air for many days was heavy with moisture. The bees evidently had difficulty in ripening the honey, and it was so thin that it soured either before or after it was capped over.—H. H. Root, Medina, Ohio.

[Mr. Baxter has added considerable more information in the following letter:]

While lack of air circulation or winds may be a contributing factor to the fermentation of the honey, I do not think that it is the main one. The yard from which the photographed comb came is located on the river bottom near the water. It is out in the open where the wind from any direction has full sweep with almost no shade at all. It has the least shade and the least obstruction to the free circulation of air of any yard that I have, and yet I suppose that every one of the first supers showed more or less fermentation. I have another yard on the same river bottom within three miles of this one. This second yard is located in a nice grove of tall elm trees but open underneath (an ideal picnic ground.) The fermentation here was no worse than in the other open yard although the hives were in shade most of the day. I have a third yard on the river bottom, located also in a shady place most of the day and surrounded by trees and underbrush which does not permit as free circulation of air as I would wish. This yard showed less fermentation than either of the two first mentioned. In this last yard the bees had access to both upland and lowland pasture. The further back into the hills and away from the river bottom I got the less fermentation I found, shade or no shade. A fourth yard located at the edge of the hills and bottom land but in a heavy grove and on a creek bank showed the worst fermentation of any I had. This would seem to give weight to the theory that it was due to poor circulation of air. But a fifth and a sixth yard located back in the hills and on higher ground, both in shade, showed very little of this trouble. So you can shake the whole bunch together and take your pick, but I don't know what caused the fermentation. I

only know that I never saw anything like it before. We found it alike in combs just drawn from foundation like the one photographed, and also in that of drawn combs to begin with. I think that the bees themselves were as badly fooled as we were. It was unfavorable condition of some sort or other of the early nectar because there is no trouble with the late honey.



Leroy Baxter, of Blair, Nebraska, is both a beekeeper and photographer.

Just after Mr. Root was here we had the most phenomenal fall flow I ever knew, that is, on the upland. On the river bottom where one would naturally expect the best fall flow from smartweed and goldenrod there was a very meager flow. But in the hills the bees drew out foundation and made nice combs in September after the 10th. Some yards averaged 50 pounds of honey or better. My little two-frame mating boxes became honey bound even and upon opening them you would find the queen walking around trying to find a place to stick an egg. I never saw anything like it. But only about one-third of my bees got the full advantage of this flow.

This fall honey was as light colored as the early honey and much heavier bodied. I'm inclined to think that much of it was secured from third crop alfalfa which bloomed profusely and the bees worked it equal to sweet clover. None of the late honey showed any signs of fermentation, in fact, after about the first week of July none of this trouble was in evidence. This fact would tend to disprove the wind theory because in the same yards only the early honey was affected. So it must have been in the thin watery condition of the early nectar, but why the bees could be fooled into sealing it before it was ready is the mystery.

This has been a year of abnormalities all the way through. In nothing could one base calculations with any degree of certainty. Even the bees took a spell of swarming in September. Many reported swarms. On September 21 we found a fine large swarm, I would judge to be seven or eight pounds, hanging up in an elm tree out of reach. At the same time the bees in this yard were tearing down drone brood and the honey flow had ceased. Yet these fools swarmed off in the face of absolute starvation and that, too, very soon. On the 13th we hived a nice swarm.

I have had no complaint from any honey customers from fermentation. This difficulty was overcome by heating.

I hope that next year will be much more favorable. I've gone ahead and increased my bees anyway in the face of adverse conditions.

Blair, Nebraska.

EUCALYPTI IN CALIFORNIA

These Trees Bloom Profusely and Yield Copiously Under Favorable Conditions

In California we do not boast of as many varieties of eucalypti as there are in Australia, as mentioned in the article on Australian beekeeping in the April number by Mr. L. Frost. The few species we have are good honey producers. The red and blue gums predominate and both yield well on alternate years. Rains affect the yield here as in Australia. I have had a continuous flow some years from November to the following June. Both types produce a water white honey when the conditions are ideal. In all my experience, with all kinds of flows from different

sources, I have found that the faster the flow the whiter the honey.

Eucalypti in California are planted mostly for windbreaks, in single or double rows, which run for miles, set at equal distance apart. Unlike a forest growth, such as is in Australia, or where they have been planted for wood, where only the very tops have bloom, we have a mass of bloom from the ground to the top of the trees, perhaps 150 feet in the air. I have doubled and sometimes trebled the number of colonies on a location with no appreciable difference in the yield. I have sometimes been ready to extract honey in January. This is the exception, not the rule, however. Where we are located the season is later than in the southern part of the state, though at times the secretion of nectar is so great that it is possible to pour a teaspoonful from a single blossom, and the slightest breeze will send a shower of nectar all about, over everything and everybody.

We have a few of the species Mr. Frost mentions, the red iron bark, and the yellow box, both of which have a much smaller blossom than the others, viz., the blue and the red gums. These smaller flowering types are almost like the basswood of the eastern states. The yellow box usually blooms in November and December, while the red iron bark does not bloom until July. They both yield well but the plantings are negligible, and are not major honey sources.

All the varieties of eucalyptus are susceptible to frost. I have seen these trees even in California, entirely denuded of foliage and to all appearances quite dead, but they have come back. The eucalypti certainly would not be suitable for planting in the northern or central states. Very few of the three hundred and odd varieties can be grown unless the location is free from frost.

The late Professor Cook and myself checked the number of varieties of eucalypti growing in California and we found only 76. Of many of the varieties only a few trees were found on private estates. This check was made in 1898, to verify or disprove a complaint from beekeepers that some species of gum was poisoning bees in and about Riverside. How many more varieties have been added since that date I do not know, but I do know the eucalypti are as uncertain yielders of honey as any of the other honey plants growing in California. However, they are not to be disregarded, despite odor and flavor of the honey.

In my observations, I find that the California flora, as regards honey production, is slowly changing. Many plants that are a source of surplus honey now, were not considered important honey plants twenty years ago, and it may be that the eucalyptus which was introduced into this country about 40 years ago and is comparatively new, may become an important factor commercially as a source of medicinal honey, but it can not be classed among table honeys, such as sage, orange, clover and buckwheat.—Wm. J. Oates, Lompoc, California.

THE BEAUTIFUL NORTHLAND

Northern Canada Has Beautiful Forests, Lakes, Good Fishing, Bees, and Honey

Having often read of the trips some beekeepers take to Florida, I should like to say something of the northland which I visited in August, 1932. So come to the cool pine-scented Prince Albert Park with me.

One can not find a spot more cooling and invigorating than the clear lakes in the pine, birch, spruce and other treeclad parks. This park is in Saskatchewan, Canada, about 175 miles north of the city of Saskatoon. It rained the morning we started from Nebraska. After passing through the Dakotas we entered Canada. The Canadian highways are wide, with long sweeping curves.

A winding road hewn through the Canadian woods.

The wild fruit blooms and sweet clover constitute the major nectar bearing plants for this part of Canada. This honey is light colored and has a fine flavor.

We stopped at a farm where bees were kept and visited the apiary. The hives were similar to the Polish hive with gable roof covers. The family had come from Russia, and as the father was away from home; the mother with her broken English, showed us some frames of honey. When she left us, I thought our visit was over, so we started for our car. But she returned wtih a shoe box under her arm full of section honey. We asked the price of a section and she said "quada" (quarter), so we bought some and found the honey delicious.

Early one morning we left the town of Langham and started for Waskesin Lake, about 175 miles north of Saskatoon. This beautiful lake, about 20 by 40 miles in size, is in the Prince Albert National Park. The clear water with its sandy beaches and rock bottom is a paradise for outdoor sports We hired a boat and started fishing with spoon hooks. I was the first one to capture two fine pickerel of a good size. Fried fresh fish were the main attraction at the evening meal.—Ben Boehr, Henderson, Nebraska.

Mason Dewey, left, and his brother, Herman, with their equipment which won them the chance to compete for the championship.

4-H CLUB BEE DEMONSTRATION

Two 4-H Boys Show the Public How to Keep Bees Profitably

Accomplishing little with ordinary demonstrations in 4-H club work, I decided to work up one on beekeeping. They say that to succeed with a team demonstration, both members must be very interested in the subject selected. As my brother, Herman, and I are well qualified in this respect in regard to beekeeping, we promptly set to work. With my five years' experience in beekeeping, and the help from government bulletins, I set to work writing up the demonstration; basing it upon modern methods and equipment, and the controlling of some of the diseases and enemies of bees. Mr. W. R. Hutchinson, our county agent, helped arrange the material in proper order.

Winning first in the district and county model club contests gave us the chance to represent our county in the boys' team demonstration at the Oklahoma State 4-H Round-up at Stillwater.

On the first morning of the round-up we competed in the entomology class of demonstration. In this class the competition was not so keen as in the other classes, such as poultry. Winning first in that class put us in the finals, which were held the next morning. There we battled for the championship with eight other teams.

After seeing the fine work that the other boys were doing, we were very much surprised when the winners were posted on the bulletin board with only one other team ahead of ours on entomology.

During the four times we put on the demonstration, we had an interested audience. The modern equipment, bee hives, jars of honey and observation hive full of bees, seemed to capture the curiosity of every one and they watched to see how everything was done in the demonstration.—Mason Dewey, Kildare, Okla.

WHEN IN ROME . . .

This Honey Sale No Secret, Even Though Transacted in a Whisper

One sunny afternoon toward the end of August, with the back seat of the old Dodge laden with dozens of five-pound pails, we set out on our yearly trip up the Lievre to sell honey to the various

country stores in that valley. Passing a huge Catholic seminary, I suggested to Harry that he might be able to sell quite a bit of honey to an institution of that kind. He seemed doubtful, but as I bet him fifty cents he couldn't, his sporting instincts were aroused, and we drove up the tree shaded drive. The college, empty of boys, presented a scene of brooding peace in the hot summer sunlight.

Harry asked a gardener how he could get in touch with the man in charge of the buying. The gardener referred him to a priest. The priest ushered him into the office of the head of the college. There was, so Harry told me, an air of sanctity about the room. The walls were hung with crucifixes and holy pictures. Altogether there was such a hallowed atmosphere that my Protestant husband was completely overawed.

A moment later a dignified priest in a black cassock entered and asked in a whisper, "What can I do for you?"

Harry replied in hushed tones: "I've come to offer you some of the best honey you can buy. It's very cheap, just eight cents a pound, and it's an excellent sweet for growing boys."

"Have you a sample with you?" the priest asked, still whispering.

"Yes, here's a small jar." Harry told him in tones barely audible, as he pulled the jar from his pocket.

The priest rang for a spoon, and when it arrived, he unscrewed the lid from the honey and sampled it.

"Delicious," he told Harry in the same whisper. "You say the bees make it from the clover in this valley?"

Harry, on his pet subject, gave a whispered description of the sources of the nectar, the number of hives in his apiary and so forth. Finally the priest ordered a dozen cases. When the transaction was completed and the two men were bidding one another good-bye, the priest said: "I had my tonsils out this week and can't talk above a whisper."

I should love to have seen Harry's face at this announcement. However, he managed to gasp a good-bye, and, feeling like a fool, fled. The priest must have chuckled many times over this incident, for the now yearly order is always couched in the friendliest of terms.—Shirley Forrest, Ottawa, Canada.

ACCOMMODATIONS FOR BEES

The Climate of Grays Harbor Is Ideal for Bee Culture

Grays Harbor County is located in the farthest West, 113 miles from Seattle, 157 miles from the Straits of Juan de Fuca, and 40 miles north of the Columbia River. The Harbor touches the Pacific Ocean on the west, and is the gateway to the last American frontier, the Olympic Peninsula.

This western Washington county is famous as being the largest lumber district in the world, and of late years has attracted attention as a country of bee culture. Aberdeen, the largest city in the county, has the only successful co-operative honey marketing association in the region, the Western Washington Beekeepers' Association. The association sells direct to the grocer, thus making the shortest route possible from the producer to the consumer. This gives the producer a little more for his product at no increase in cost to the consumer.

This association has been organized only a few years and is meeting with success in the marketing of honey. The Association receives at its warehouse the honey as it comes from the extractor, delivered in five-gallon cans. It has equipment for heating, blending, and bottling the honey, and can do this work much better and cheaper than can the individual beekeeper.

The winters are so mild that expensive packing or cellar wintering is unnecessary. It pays, however, to provide some protection against moisture. This is easily and cheaply done by wrapping the hives in asphalt building paper folded to shed the water. This paper is water and moisture proof, and the cost, including labor, is less than 12 cents per hive.

The first pollen-producing flowers of the season usually begin blooming about the middle of February, some years earlier and some seasons as late as March 1. When the first flowers are later than usual, the main honey-producing flowers are proportionately later, so it is safe to say that they have a building-up period of fully four months before the main honey flow comes from fireweed, which begins to bloom about July first and lasts six weeks. This long building-up period gives beekeepers on the Harbor ample time to get colonies in tip-top condition for the main honey flow.

Not all of the honey gathered during the early part of the season is used for brood rearing. There are at least two honey flows during this period that give some surplus. These are the vine, maple and wild blackberry, which grow in profusion in the region. Both of these plants may be classed as major honey-producing plants. A number of other wild flowers bloom during the early part of the season, which are not very important individually, but when grouped together make a honey source of no mean proportions.

Since the California daisy has been distributed throughout the county there is no break in the honey flow, from the time the pussy willows begin to bloom in February till the end of the fireweed flow, usuabout the middle of August, and usually there is a light intermittent flow up to the first of October.

So far only wild flowers have been mentioned as a source of honey supply. In the valleys and farming sections white and alsike clover are important, also the various fruits. Red raspberries are among the heaviest nectar-yielding plants on the Harbor. While there is quite a large acreage of strawberries in the county, they are not important as a source of honey. Plants that are visited by the bees set more and better fruit, and the young, tender berries stand much harder freezing than where they are visited by bees.

Grays Harbor County ranks well in the number of colonies and first in per colony production in the state. The Western Beekeepers' Association formed on the Harbor is rapidly solving the marketing problem for its members, and is enabling its members to devote their entire time to the production end of the business.—Minor Stuart, Cosmopolis, Washington.

SPINSTER JANE SAYS—

Christmas will soon be here, but except for one little snowfall that left almost as quickly as it came, it doesn't seem a bit Christmassy. As it draws nearer we will catch that elusive Christmas spirit, as we always do, and all will be well.

At the close of the year we always look backward over the year, and what a memorable year this has been! It may even yet rank with 1914, though we trust for peace. The heaviest earthquake shock ever felt here will not soon be forgotten. Old Mother Earth was in frolicksome mood, and cavorted a bit with the Hallowe'en revellers, shook herself, and incidentally the rest of us, and gave us the smallest idea of just what she could do if she really went on a rampage and became serious. And the war goes on with us all holding our breath, fearing the conflagration may spread and grow.

I must not forget one other small item brought to my notice, one hard to forget. Not over twenty-five miles away, where nearly every one is on relief, doing roadwork to pay for script received, two women have been ordered out to do their work; one a widow, one whose husband is too ill to work. We hope there isn't another such in Canada, and are ashamed that this should be wished on our district. I think a woman on such a council might be useful, though I am quite against this ordinarily. Thank goodness such things are indeed rare.

You all have your bees safely fed and packed for the long winter ahead. Now, until the beginning of the new year, let us forget them, ourselves, our cares and worries, and for a change concentrate on others.

I read a remarkable book not long ago, called "The Magnificent Obsession," and must tell you a little about it. In fact, for this day and age, it was truly remarkable. Almost every book we pick up, in aiming to be a best seller, caters to the the public taste, and in many we get no real good except amusement for the moment, sometimes not even that. In this there was a new thought, and I pass it on to you, Gleanings readers, in time to try it out for yourselves.

A great surgeon was drowned because the pulmotor, always kept at his lakeside camp, because of a certain premonition of drowning he had, was being used across the lake to resuscitate a wild, harum-scarum, young man, son of a millionaire.

The whole country mourned. This surgeon's death was a tremendous loss, while the young man, spoiled as he was by drinking, carousing, and the adulation of worthless hangers-on, was a menace to society.

While in the hospital, this young man learned public sentiment on this point by accidentally overhearing a conversation not meant for him, and, helped on by the lady superintendent, a warm admirer and

close friend of the surgeon, made a resolve to do his best to right-about-face. He would study medicine and try to take the place of the man for whose death, in a way, he felt responsible.

He began studying the man he meant to follow, and found much very mysterious about him. One thing was especially mysterious. After his death hundreds of people from all walks of life appeared to sympathize with the widow and daughter, expressing their appreciation of what the dead man had done for them in financing them over difficult times. In every case when they had offered to repay him, he had answered they owed him nothing, saying, "I have used it all up." This speech mystified the young man, as it did the wife and nurse, but the latter believed she held the key, and gave him a book in code, kept by the surgeon in the hospital safe. This he finally succeeded in mastering.

At first he believed the writer quite crazy, but in studying and doing his utmost to succeed in his work, he came in touch with the man who had inspired the surgeon, and was in turn inspired, turning to the Bible for that man's inspiration, and thus getting in touch with the supreme Great Physician.

They got their idea from Jesus' command, after doing any act of healing or other great deed, "See that thou tell no man!" Just doing a good deed whenever the opportunity came, swearing the one so aided to secrecy, then getting paid from higher up in greater efficiency, greater skill, more success.

The young man put it to the test and in every case proved it true. He grew in skill and efficiency, "using it all up," feeling at last that his father's great wealth could prove a wonderful thing to others and through the giving, to himself, being repaid many times over.

And now, folks, may there not be something in it—in following Jesus' example, not for reward, but simply for the blessing sure to follow. True, we can not give great sums of money to save homes, to keep folk out of prison, to make restitution, but what of the widow's mite? Will God not consider our inability to give much, and say of the small gifts what he did of that widow's mite? Let's try it out this Christmas, admonishing secrecy.

Why do we usually give gifts? Is it not for gifts in return? What of giving to make ourselves important and generous in the public eye? Have you ever heard, "I gave $100. What did you give?" Was there not another command, "Let not your left hand know what your right hand doeth?" Rather secret giving, that, and no one knows just what blessings we have lost by parading our gifts for all the world to know.

Now Spinster Jane wishes you all a multitude of blessings from your Christmas giving this year, and a true knowledge of the Christmas spirit, in passing on this, my Christmas, borrowed, sermon. Merry Christmas, and don't forget a jar of your choicest honey in each basket. It is better than more expensive sweets.—Spinster Jane.

Bee Meetings Attended Recently

It has been my privilege to attend four bee meetings recently. The first was the fall meeting of the Connecticut Beekeepers' Association in Hartford, October 19. Dr. Philip Garman of the Experiment Station, New Haven, gave statistics to show that bee diseases are well under control throughout the state.

Dr. H. W. Furniss, of West Hartford, a local bee enthusiast, showed some moving pictures of a recent summer bee meeting at the home of Chas. A. Pease, of Cannan, Conn. Allen Latham, the well-known queen breeder, gave a talk on bumblebees, and brought to the meeting some bumblebee honey to be sampled.

The next meeting was the Nassau County bee meeting at Winona, Long Island, New York, Prof. Geo. Rea, of the Apiary Extension Service of Cornell University, talked on the importance of ample winter protection for bees. Prof. Rea had with him the hive, paper and packing material and demonstrated just how the packing is done. This is a forward step in getting information across to beekeepers.

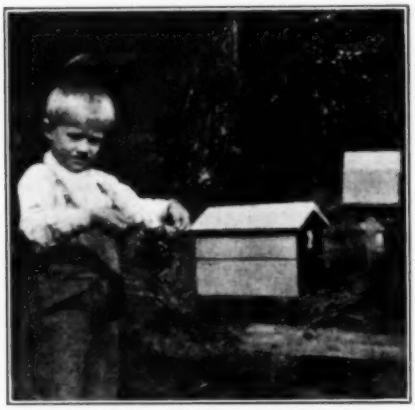
The third meeting was the Illinois State Annual Convention at Springfield, October 25 and 26. I wish we had space for all the high lights of this splendid convention. Henry Horner, Governor of Illinois, spoke at the beekeepers' banquet. Mrs. Malitta Jensen, Secretary of American Honey Institute, who was starting on her western trip, thrilled us with her talk on honey. Mrs. Jensen hopes that in the future district or regional units of the Insti-

(Continued on page 758.)

Heads of Grain from Different Fields

A Norway Junior Beekeeper

Five-year-old Odd Claus' birthday is on July 4. He is interested in bees, and here he is holding a frame of his father's bees taken from a small queen-mating hive.



Five-year-old Odd Claus is not afraid of bees.

He is very fond of honey which he has eaten since he was 14 days old. His father, Otto Claus, has been a subscriber of Gleanings since 1922, which was the first year he started with bees. He has now 22 hives and spends most of his spare time with them, often with little Odd at his side.—Otto Claus, Bryn per Oslo, Norway.

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Quick Method of Uniting Colonies

To unite two colonies of bees I have used a method, which, although I do not claim it is any better than several other good methods, I believe to be much faster. Place the two hives face to face with the fronts against each other, and a canvas sheet spread out on the ground underneath the two hives. The colony to be strengthened is No. 1, and the colony to be united with No. 1 is No. 2. Remove the cover from hive No. 2, after having killed the queen if present. Substitute for the cover a heavy cloth. Now blow a few puffs of smoke into the entrance of each hive. Fold the ends of the canvas sheet over the fronts of the hives, so as to form a tunnel in the space between the two hive entrances. Raise up a small part of the heavy cloth at the back end of hive No. 2, and insert the nozzle of the smoker. Puff smoke vigorously until all of the bees are driven out of hive No. 2 into No. 1, which should take but a few minutes. After all bees are out, remove the combs with no brood from hive No. 1, and replace with the combs of brood and honey from hive No. 2. Remove the empty hive, and the canvas sheet, and give the united colonies several strong puffs of smoke, to help to destroy the odors of the colonies. There will be a few bees fighting, but usually not enough to amount to anything. Should they get too ferocious a few more applications of smoke will usually subdue them.—Clarence J. Tontz, Crescent, Oklahoma.

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Separating Cellophane Wrappers

Sheets of cellophane sometimes stick together, especially if they have been kept for some time. In that condition you can generally get them off the pack two or three together with no trouble, but separating these is apt to be a problem. It was for me, anyway, until I hit upon the plan of dipping the corners in water. Put half an inch of water into a shallow dish and set it conveniently at hand when you are wrapping honey. Whenever you find two or three sheets stuck together dip the corner into the water and lay the sheets aside. In about a minute or a little more—or about the time it takes to wrap two sections—you can separate the sheets readily by rubbing the moistened corner between thumb and finger. Or, if they still are inclined to stick, another dip in the water will make them yield at once. By this plan it is practical to use cellophane that could otherwise be used only at too great expense of time and temper. It really takes less time to do it than to tell about it. I have used cellophane that had been left lying about until it would have been practically worthless where the usual methods of separating the sheets had to be depended on, yet by dipping the corners the extra time required for separating them was not more than three or four minutes for a case of 24 sections.—W. H. Hull, Vienna, Virginia.

An Easy Way to Clip a Queen's Wings

I have tried something which may be of interest to other beginners like myself. Instead of taking the queen between my finger and thumb to clip her wings, I waited until she put her body in a cell to lay an egg and then very gently slid the point of my scissors under her left wings and snipped them off. I don't believe she knew it for she kept right on laying eggs.—H. V. Kandle, Pleasantville, New Jersey.

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Enthusiasm Still Runs High

Those who have taken beekeeping courses in our agricultural colleges seldom lose their enthusiasm for bees. John Jessup, of Council Bluffs, Iowa, a graduate of the College of Agriculture at Ames, is no exception. He has several hundred colonies which he runs for extracted as well as comb honey, and he has become a successful producer of honey on a large scale. He has made a close study of Caucasian bees. (Gleanings, page 719, December, 1934.) Mr. Jessup has never lost his admiration for his teacher, F. B. Paddock, whose students now are scattered broadly over the country. Mr. Jessup is here shown with his former chief and also as an apicultural cave-man.—H. H. Root, Medina, Ohio.

John Jessup, with only bees to keep him warm.

Mr. John Jessup and Mr. F. B| Paddock. Photographed by Wallace Parks.

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Water Method of Introducing Queens

When a colony becomes queenless the backlotter usually orders a queen by mail, and upon its arrival cuts out all cells and introduces her in the mailing cage. If there is a dearth of nectar she sometimes is not accepted, and the bees, hopelessly queenless, develop laying workers. It then becomes increasingly difficult to get a new queen accepted; and the beekeeper becomes more cautious, using more days for introduction than he allowed for the first mailed queen. A good colony is soon run down under these conditions. The beekeeper entertains doubts about many things and he goes to his beemaster who may give him the following instructions: "Take a large watering pot and put the rose sprinkler on the spout. Fill the pot with lukewarm water. Shim up the hive so the water will run out the entrance and pull out the entrance block. Have the new queen ready for a quick release. Remove the cover from the hive and water the bees and combs until half of the water is gone, run the queen down among the bees from the center of the top, then continue the watering until the can is empty. Now replace the cover and the entrance block and leave the bees alone. They do not ball the queen or sting the beekeeper, having something else to think about.—Arthur M. Southwick, Waban, Mass.

A Few More High Lights of Detroit Meeting

THE EDITORS

(Continued from page 695, November issue.)

As has already been said, those who failed to attend this International bee meeting missed a treat. Rarely, if ever, have so many distinguished leaders of our industry met to discuss problems vital to beekeeping.

Unfortunately, it was impossible for the Gleanings staff to hear all of the speakers because of committee meetings and various other duties. Where there is no mention of a paper that was read it was not because of a lack of merit.

Producing and Marketing a 60-ton Crop

Mr. Morley Pettit, of Georgetown, Ontario, gave some sound advice on producing and marketing honey. Honey should be graded carefully before being sold. This is all the more necessary because of the lack of uniformity in honey. He also pointed out that a low price encourages a larger consumption of honey. He spoke particularly of the unfair competition in Canada from the corn syrup people who label their product in such a way that the unsuspecting buyer might get the impression that it came from a bee hive rather than from a glucose barrel. That form of misbranding, he said, could not occur in the United States. Corn syrup is always uniform. He said beekeepers must do the same—put out a more uniform product.

Their old co-operative had its troubles. The newly organized co-operative is using

better business methods. Now in 1935 beekeepers are bringing in more honey than it can handle.

Package bees are used quite generally in the Pettit apiaries. Bees are shipped in cages with no clustering strips, that is, strips running lengthwise within the cages. Shaking the bees out of a package, in front of the hive, permitting them to run in like a swarm and releasing the queen with the bees, he finds to be the best method for installing packages. This is done late in the evening to avoid drifting.

Processing and Storing Honey

Dr. V. G. Milum, of Champaign, Illinois, mentioned experiments conducted in processing and storing honey. He found that a temperature of 50° Fahrenheit induces granulation, while 77° results in the least granulation. Honey should be carefully strained not only to remove sediment but pollen grains and air bubbles. Crystallization is apt to form around air bubbles and pollen. He had tried heating to different temperatures but found 160° F. about right for straining and the prevention of granulation. Flour sacking 48 meshes to the inch makes a good strainer. A milk strainer won't work. He referred also to his experiments with the lesser wax moth, an account of which appeared in the November number.

"Busy Bees Bring Bending Branches"

H. J. Hootman, extension horticulturist of the Michigan State College, East Lansing, Michigan, and an authority on pollination of fruit trees, spoke on the subject as above. The average fruit grower, he said, has a hazy idea of the general subject of pollination of fruit trees. Some growers believe that the pollen is carried by wind or by rain from tree to tree. The fact is, fruit tree pollen is not carried in that way. Many growers make a mistake of not having compatible varieties of

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fruit trees set out together so that proper fertilization of the blossoms by bees is made possible. Many fruit trees are not only self sterile to their own pollen but are sterile to other varieties in the immediate vicinity. In such cases bouquets of compatible or friendly varieties should be placed throughout the orchard and through the trees. The word "compatible" means a pollen from one tree that will be effective in producing more and better fruits on another variety in the same orchard.

The only effective agency for pollinating fruit trees is unquestionably the honeybee. He then gave some figures that prove conclusively that honeybees enormously increase the fruit crop, always provided, however, there are enough bees and that the varieties are compatible.

Cut Comb Honey Must be Sold Before Christmas

This was discussed by James Hilbert, of Traverse City, Michigan. For the production of this product he recommended shallow extracting combs in supers 5⅜ inches deep. The foundation, unwired, must not be nearer than half an inch to the end-bars or to the bottom bar. If it is too close it will buckle and the combs will be uneven. He could produce 30 per cent more comb honey in shallow frames than in sections.

He has little or no trouble from pollen unless there is too much sweet and field corn in the vicinity. While he did not know why the production of section comb honey was decreasing, he did know that the demand for cut comb honey, such as he had been putting out, wrapped in transparent cellophane was increasing rapidly. He was not able to produce enough to take care of his trade and so he had to buy from those who could produce nice sealed honey in shallow extracting frames. He made it clear, however, that all cut comb honey should be sold and consumed before Christmas on account of the danger of granulation of the outside edges. In the exhibit room he had some very fine samples of cut comb honey wrapped in cellophane.

The Detroit Free Press on Honey

Miss Marian Sawyer, director of home economics of the Detroit Free Press, made the point that beekeepers usually did not understand that the newspapers are willing to publish any good copy on the subject of honey providing it carries no advertising of any particular brand of honey. Her paper carries on food demonstration work before both evening and day classes of women. It also has a traveling kitchen which reaches out fifty miles from Detroit. They are always anxious and eager to know new tricks in cookery. In a number of their demonstrations and class work they had featured honey and expected to feature it especially during honey week. During the past year the Detroit Free Press has had something over 5000 telephone calls for information on honey, and one lady in particular asked how to make cookies using honey as the only sweetening agent. Taking it all in all, they have had 200,000 requests for information on honey. The Detroit Free Press hopes to get out a special leaflet on the use of honey in cooking.

Greetings from Miss Mary I. Barber

Miss Sawyer was followed by Miss Mary I. Barber of the Kellogg Company, Battle Creek, Michigan. She was glad to be associated with the honey people again. Her company, she said, was sending out more honey leaflets than ever. She showed a new leaflet which was seventh of a series of honey leaflets that the Kellogg Company is about to send out. This features honey in a new way. As she travels from place to place she notices how honey is being used in various food products under various trade names. She then exhibited some labels and some food packages showing what she had seen. Among the number was honey from the coffee blossom, a honey almond butter, honey crackers, an almond paste flavored with honey and a honey nougat. She was convinced that the way to increase consumption of honey was to use it in cooking as was being so effectively done by the American Honey Institute. She had found Miss Sawyer of the Detroit Free Press most co-operative. She told how the general public was still writing to the Kellogg Company for information on the subject of honey and that this company was always glad to send out honey literature asked for. She particularly said to ask for Kellogg's store banner featuring honey.

Miss Barber has a most pleasing personality, and with Mrs. Jensen of the American Honey Institute, Miss Crocker, Miss Sawyer, Dr. Nelson, Miss Shank, and many others, is a most effective booster of honey.

The Honey Golf Ball

The next subject discussed was the development of the honey center golf ball by E. LeRoy Pelletier, Jr., advertising manager of the L. A. Young Golf Company, Detroit, Michigan. Our readers, of course, are familiar with the fact that honey has been going into the golf balls in large quantities and as this is a very unusual use for honey, Mr. Pelletier, Jr., was listened to with more than ordinary interest. Various substances have been used as the center of a golf ball, but the non-granulating honey such as tupelo, seems to be better suited for this purpose than caster oil, water glue or glucose. Honey has the correct specific gravity, and when it is non-granulating, like tupelo or sage, it is better than any other substance found. The golf people must have a honey having a low dextrose content because a honey that granulates loses its elasticity. The honey to be inserted in the centers is heated to a temperature of 180° Fahrenheit to make very sure that there will be no subsequent granulations.

At close of Mr. Pelletier's talk, Mr. Russell H. Kelty, president of the American Honey Institute, added that the golf people had advertised honey more extensively than perhaps any other users of honey because the idea was very novel. The newspapers were quick to pick up the story and broadcast it all over the country.

Honey at Your State Fair

Mrs. C. L. Duax, wife of the bee inspector of Illinois, told how she had been instrumental in organizing a women's club for the promotion of honey among the wives of beekeepers, many of whom do not know anything about the peculiar virtues of the product that they produce. She told what they had been doing at the Illinois State Fair; of the demonstrations in honey cookery; of the broadcasts featuring honey; and of the use of the telephone in getting the women "honey-minded."

The American Honey Institute and Its Work

Mrs. Jensen explained the work of the American Honey Institute, of the new contacts made among bakers and dietitians of big food companies, and of how honey was being used in other foods. She stressed the good work being done by the big food companies in the exploitation of honey in connection with their foods, and particularly of the new General Mills campaign for the Betty Crocker honey chocolate cake made in the General Mills' kitchen. Mr. R. L. Brangs, Vice-President of the Gold Medal Foods, Inc., says: "This is the most complete program in advertising and merchandising ever devised or attempted by General Mills and is the biggest and most powerful schedule to bring customers direct to the grocers in all food advertising history." That simply means that this big corporation has appropriated $250,000 to feature their chocolate honey cake. This advertising appears in several of the leading magazines and in broadcasts. Betty Crocker, a friend of honey, has been broadcasting to the housewives located all over the country and not infrequently mentions honey. If Mrs. Jensen and the American Honey Institute had done no more than to make this contact it would have been worth all it has cost.

Mrs. Jensen referred to the Honey Cookery Contest that took place at the International Congress of Beekeepers at Valdosta, Georgia, last winter. Two hundred and fifty-eight participated in the contest at Valdosta, but less than one hundred at the Detroit meeting, probably because less time was taken for the preparation of such a contest as given at Detroit The judges there were Dr. T. Mabel Nelson, head of the Nutrition Department of the College of Agriculture, Ames, Iowa; Miss Dorothy E. Shank, Director of Research Kitchen, American Stove Company, Cleveland, and Miss Marion Sawyer of the Detroit Free Press. Dr. Nelson said that they based their decisions on the flavor, on the appearance, and the honey-keeping qualities. Some of the cakes, she said, were over-decorated or over-baked. Some of the cookies were too soft and in some case, the chocolate was too pronounced. The judges felt that a contest of this sort, based on the use of honey, should have a distinct honey flavor, a flavor that was not obscured by spice, citron or raisins. The following is the result of the contest:

Fruit Cakes—1, Sister M. Christine, Mt. St. Benedict, Crookston, Minn.; 2, Miss Christine Huff, Calelonia, N. D.; 3, Mrs. Howard Chafin, Elkhorn, Wis.; 4, Sister M. Bennet, Mt. St. Benedict, Crookston, Minn.; 5, Mrs. W. R. Thomson, Milwaukee, Wis.; 6, Sister M. Praxedes, Mt. St. Benedict, Crookston, Minn.; 7, Mrs. Howard Potter, Jr., Ithaca, Mich.; 8, Miss E Chafin, Elkhorn, Wis.; 9, Mrs. Chas. Kinzie, Arlington, Cal.; 10, Edwin Sluyter, Detroit, Mich.

(Continued on page 756.)

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Editorials

Sharing Beekeeping Secrets or Tricks

The majority of experienced beekeepers have accumulated a number of tricks or short-cut methods in apiary management. The most of these beekeepers are glad to share these little tricks of the trade with other beekeepers. Some, however, consider these tricks which they have acquired, trade secrets and under no circumstances will these secrets be divulged.

The interesting fact is that there are comparatively few secrets in beekeeping. A beekeeper who thinks he has a little secret or trick that others have never heard of, may and usually does find to his amazement that another beekeeper in an adjoining county or state has possession of this same trick and has been using it in his apiary for years. It has been said that there is nothing new under the sun.

If we are fortunate enough to run onto some little tricks or short cuts in apiary management that are worth while, that save time and labor, and reduce the cost of producing honey, why not share them with others? We then have the satisfaction of knowing that we have at least tried to make some contribution to the beekeeping industry.

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Stop Small Leaks

Success in beekeeping depends on one's ability to produce and market the maximum crop of honey at the minimum of expense. During these days of comparatively low honey prices it is essential that production and marketing costs be cut to the bone.

Beekeepers should examine carefully their methods of producing and marketing for small leaks. It has been said that a small leak if not stopped will eventually sink a ship. Frequently there are small leaks in production and marketing methods that can and should be stopped. Such leaks, which may consist of wasteful and faulty business methods, if left unstopped, will eventually sink a beekeeper.

There are various kinds of leaks in beekeeping. One of the most common is duplication of effort, or, a failure to make every move count for the most. To stop this leak beekeepers must work out an efficient and intelligent system of management that eliminates all false motions, a system that enables beekeepers to do just the right thing at the right time. Such a system should help to stop leaks and make it possible for beekeepers to go on and enjoy at least a small margin of profit in beekeeping.

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Uniting Colonies Without Newspapers

Some years ago the editor had occasion one fall to unite six laying worker colonies with six queenright colonies in order to save the bees. The uniting was done early in October after brood rearing had ceased and before the bees were clustered tightly. The laying worker colonies were placed on top of the other colonies with as little disturbance as possible, without using newspapers between the hives. The bees united readily and no fighting occurred.

Within the past few years we have united queenright colonies in early October successfully, with no loss of bees from fighting.

A few years ago we united queenright colonies at the beginning of a honey flow, during the middle of the day when a large percentage of bees were in the fields. No dead bees were found at the entrances of united colonies.

It used to be considered necessary to use a newspaper when uniting colonies that were broodless and not clustered tightly in the fall. It now appears that paper is unnecessary for late fall uniting. It is possible the colony odor disappears after brood rearing has ceased, which makes the bees unite without fighting, whether clustered or active.

It is also apparent that uniting can usually be done during a heavy honey flow, without any fighting. In fact, it is possible to do a number of things to bees during a good honey flow that can not be done during a dearth of nectar, or even during a light honey flow.

It seems advisable to use a newspaper between colonies being united during the summer, except during a very heavy honey flow.

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Killing the Goose That Lays the Golden Egg

No one would welcome higher prices on honey and beeswax more than the publishers of Gleanings. Both products have been going into avenues of trade of late, as they have not done before; but when the price of either goes to a level beyond the price of substitutes that are nearly as good and very much cheaper, both products from the hive will be dropped and substitutes will take their place. It may take years before we can get the large volumes of our products back with the danger that they will never return.

Just now there is a scarcity of good table honey, especially in large lots. Bottlers are finding difficulty in getting sufficient honey at prices that will enable them to continue to exploit and push the sale of it. Bakers may turn to invert sugar because it is cheaper than honey. When we recall that one large baker used over a million pounds of honey last year we can see what that means. That concern may now go back to invert sugar syrup which is much cheaper and more plentiful and of uniform quality.

The wine and beer interests have been buying fermented honey this year because it was cheap. Now that fermented honey has gone up in price they may go back to glucose and corn sugar.

At the Detroit convention it was proposed to put a tariff on unrefined beeswax from foreign countries. Beeswax has been going into the other arts because the price has been relatively low; but just as sure as a tariff is put on it and the price advances, other waxes that are nearly as good at less price will be substituted.

We must not forget that both honey and beeswax have strong competition in products that are sold at lower prices. When the housewife finds that she can get jellies and jams at much lower prices than bottled honey she will drop honey. When the bakers find that honey is going up they will use again the much cheaper invert sugar syrup and, of course, the liquor interests will use glucose and corn sugar and drop honey.

Exactly in the same way if beeswax is shoved up by a tariff, the electrical and floor wax manufacturers, as well as the makers of cosmetics, will use other waxes.

The reason that honey and beeswax have of late gone into other lines is largely because the price has been low. Now that honey is scarce and going up in price and that some advocate a tariff on beeswax, the products of the hive are liable to be dropped. This will mean that honey will again glut the market and that beeswax will go down in price.

Can we afford to kill the goose that lays the golden egg? In respect to beeswax, the American Bee Journal, in its editorial on page 515, has hit the nail squarely on the head.

While both publishers may be accused of financial bias, this whole problem will hit the beekeeper much harder. If his products go down in price and he can't find a market for them he is hit as well as the bee journals, the demand for which will be less if he, the beekeeper, can not prosper.

The moral is that there are a large number of small lots of honey not sold yet. See our honey column. If the price is held too high, the cheaper products will be used.

Let us emphasize as strongly as we can that beeswax and honey both have strong competition. During the Great War sugar was rationed and not a competitor of honey. The price of honey soared because it had no competition. That condition does not now prevail.

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The Annual Burning Shame Again

Every autumn as the leaves fall in the northern states, it is the universal custom to rake up the leaves and burn them. Not only is the whole town smoked up to the distress of every one, but a valuable fertilizer and soil humus is destroyed. The sod is burned deep where the pile of leaves is burned and it will take a couple of years to replace it with good grass. If burned on the streets these smudge piles make a screen of smoke that is very dangerous to the traffic. Many accidents have occurred.

The fact important to beekeepers is that leaves make the best sort of winter packing between the hives with slaters' felt wrapped around the outside.

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In the southern states, and particularly in Florida, this vicious habit of burning off the landscape every fall and early winter is destroying bee pasturage to the extent of millions of acres and worse yet is burning up the top soil which in most cases is peat from decaying vegetation that has taken thousands of years in the making. Peat is a form of coal that burns readily. It won't be long in Florida before in some localities there will be no top soil. Young timber is being destroyed as well as bird life, and on top of it all, the once beautiful country looks like a singed cat.

Laws have been passed against this burning. The forestry department of the several states are crying out against this wanton destruction of property and still the burning goes on, both north and south, all because the officials whose duty it is to enforce laws, are afraid to offend the ignorant farmers and, in many cases, the irresponsible cattle men who think new grass will spring up after the fires. New grass does not come up and when the top soil is gone there will be no growth of any kind.

We have referred to this burning shame several times before in these columns. We have induced agricultural papers and the general press to cry out against this habit of killing the goose that lays the golden eggs, and we propose to keep up the fight.

We ask our readers who see this, to go to their local papers and get them to urge the officers of the law to stop this nuisance. There is plenty of law in most states and particularly in Florida, to make some arrests. More than all else, it is the duty of the papers to arouse public sentiment against a nuisance that has been going on for years. A mere spasm of one editorial is not enough. It must be a continuous fight. Will you help us, Mr. Beekeeper?

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How the Little Beekeeper Helps

This was a part of a talk made by James I. Hambleton, Senior Apiculturist, Washington, D. C., recently, at the Detroit international bee meeting. We are in agreement with this statement. There may be some who disagree.

There are those who claim that the little beekeeper is a menace to the industry, because of the danger of his spreading bee diseases. In some instances this may be true, but in the majority of cases the small beekeeper is just as anxious to keep his apiary free from disease as the commercial beekeeper. Furthermore, many small back-lot beekeepers who have kept bees for a comparatively short time may actually know more about beekeeping and bee diseases than some other larger beekeepers who have kept bees for a much longer time.

There appear to be at least two good reasons why we need more little beekeepers. First, because the average small beekeeper, especially the enthusiastic beginner, is a big factor in advertising and popularizing honey. He usually has the bee fever and he talks bees and honey continuously. It is safe to say that people who live close to him know some facts about bees and honey that they wouldn't know if this beekeeper were not living in that neighborhood.

Years ago the junior editor sold a nationally advertised brand of honey to grocers in a series of towns out from Chicago, where local beekeepers were plentiful and where many local brands of honey were found on grocers' shelves. Strange as it may seem, that was the easiest place in the world to sell honey. Why? Because people knew about the virtues of honey.

The editor also sold (or tried to sell) honey in a few localities where beekeeping was not profitable, and where there were comparatively few beekeepers and very little, if any, honey on the grocers' shelves. Selling honey in such a locality was uphill business. Why? Because the majority of the people there did not know about the virtues of honey, and, of course, did not ask their grocers for it. And it was difficult to induce a grocer to buy even one case of honey.

Secondly, we need more little beekeepers and especially enthusiastic beginners, because some of them will eventually become our best commercial honey producers. If there were no little beekeepers, no beginners, there soon would be no large or commercial beekeepers and that would mean the death of our industry.

And so, let's be kind to the little beginner. Let's encourage him. He is helping to create a demand, not only for the relatively small amount of honey he may produce, but also for the honey produced by the commercial beekeeper.

From North, East, West and South

SOUTHERN CALIFORNIA, November 6.

Weather: We had several days of wind that swept into our valleys from the north and east carrying large quantities of dust. No rain of any account has fallen since our last letter and the time for our first rain is getting overdue. Scripps Oceanographic Station at La Jolla says that we can expect at least a normal rainfall this winter. These reports are usually conservative. So far as next year's crop is concerned will say, "it is all in the bag yet."

Honey Crop: In our last letter we mentioned a few favored locations that secured a small crop from blue curl. We hear of an occasional beekeper who got one or two extractions from late blooming plants. The crop is less than we had reported and honey buyers are very active. The demand is good and prices firm with a tendency to advance.

Beeswax: Beeswax is in good demand at around 17 to 18 cents, with a good prospect of going higher. Some of our larger producers will use much of their wax for foundation. Many have increased their colonies and will need more combs to take care of next year's crop.

Miscellaneous: We often wonder if this North, East, West and South department is looked forward to by others as it is by us. Some amusing truths often crop out in our writings. For instance, Mr. Wood could not have expressed the average beekeepers' position better had he spent weeks in thinking it over than he did in the last paragraph of his article on page 615. Verily this bee business is a great business to keep up a fellow's hope.

The Los Angeles County Fair this year was probably one of the greatest ever held in these United States. Los Angeles, Riverside, and Orange counties vied for first place with tons and tons of honey in every conceivable type of container. Glass containers predominated to a large extent. With strong lights from behind throwing rays through the almost transparent jars of honey it made a most original and attractive display. Exhibitors report a larger interest than ever before with the general public in not only honey but in all kinds of canned fruit, cakes, cookies, and other foods sweetened with honey. Advocating the use of honey as a sweet for people who can not or should not use sugar, is, in our opinion, one of the best appeals.

The first prize went to Riverside County, second to Los Angeles and third to Orange County. The people very largely responsible for the success of the beeke pers' exhibit from Riverside County were Mr. and Mrs. Charles Kinzie and Jas. Kinzie, who spared neither time nor expense in putting on one of the most attractive honey displays ever seen in southern California.

At a meeting of beekeepers from Los Angeles, Riverside, San Bernardino and Orange counties, held in Pomona, November 2, the subjects of bee diseases and loss of bees from dusting and spraying were the principal topics discussed. Severe losses have occurred in sections where dusting was done by airplane and also where the work was done by machine. Just how we are to avoid this loss or get remuneration where losses occur seems to be the beekeepers' problem.—L. L. Andrews, Corona, California.

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NORTHERN CALIFORNIA, November 4.

Weather: Our first rains have come. This is our first announcement of winter and it means that honey extraction should be over, fall requeening should be done, and the bees going into winter quarters. Bees that are going into the orchards now should have at least 35 pounds of honey to carry them through until blossoming time has commenced. Our bees being moved at this time into the eucalyptus will not need so much honey. Many seasons when 20 or 25 pounds were left we have found that much in the spring. The eucalyptus blooms from December on and the bees are able to bring in enough to carry them through to the heavier flow in March and April. The flow finishes in May when the bees will go to the alfalfa.

This is true of the Bay region; farther north the bees must wait for the fruit bloom. In the Bay region we scarcely ever have frost enough to kill the most delicate flowers. Once in a long time we have a flurry of snow and when we do the euca-

lyptus suffers and the beekeepers lose the early flow of nectar they were expecting to start them off in good shape for the summer.

As in every other industry we have a few beekeepers who are late and the result is that their extraction is not yet finished. They will keep at it and some day it will be finished. This class of beekeepers is the one which does not read journals and some of them do not even belong to the state association. Their number is growing smaller each year. Some of them conclude bee business is a poor one and sell out. Younger, up-to-date beekeepers take their places and the industry is improved.

Miscellaneous: Here in California we have a very serious problem to face. It is airplane dusting of crops; that is, the use of poisonous chemicals in spraying crops. The beekeeper realizes that the farmer and fruit grower must protect his crops against the ravages of insects but he does object to the use of the airplane that is liable to kill bees three miles from the fields dusted. This has caused heavy losses in many parts of California during the past season. Among the losers are the U. S. Experimental Station at Davis and the University of California at Davis, both institutions losing practically all of their bees. Beekeepers in that vicinity lost thousands of dollars worth of bees. This locality was a striking example of the dust which was intended for tomato fields (which the bees do not visit) drifting two or three miles over bee pasturage—grapes and vegetables.

While the bee industry in California is a large one, fruit and vegetable growing is a greater industry and we find this is causing beekeepers to think the Department of Agriculture is a little partial to the greater industry. This should not be the case for bees are as valuable for pollination as for their honey and if beekeepers must suffer, likewise fruit growers and others will suffer if we lose our bees.—Cary W. Hartman, Oakland, California.

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WESTERN WASHINGTON, November 8.

Weather: September was unusually dry and warm, with just enough rain to settle the dust, but not enough to stimulate the growth of white clover which is our main crop. Beginning about October 10, there was rain in abundance but it was too late to do any good, for by the 15th flying weather was over and the bees had gone into winter quarters, resulting in a greatly shortened working season. November came in with record-breaking low temperatures, the thermometer hovering dangerously close to zero at night, with bright sunny days around 40 degrees.

Honey Flow: What promised to be a better than average season was thrown into reverse at the end of the fireweed season, which finished off prematurely here in the lowlands, early in September. Better reports, however, came from the foothill country, where fireweed blooms later, lasting through most of the month. And this is one reason why the great mountain area is the best honey producing part of the western half of our state.

Miscellaneous: The old enemy, A. F. B., has invaded this district, greatly lessening production, and in some cases putting small producers entirely out of business. One of these men, who has kept bees for a number of years, is so discouraged that he said when interviewed: "I am through with bees and foulbrood forever." But others not so easily discouraged are making the best of a bad situation, cleaning up, and preparing to go forward. This type of man, who is willing to be taught by his reverses and blunders, is bound to win.

Another lesson that our almost nectarless fall season has taught us here in the Northwest, is, that it pays to plant nectar-bearing crops, so timed that they will be at their best in September and October. The only objection most beekeepers have to such a plan is, that their neighbor's bees might get as much of the nectar as would their own. Reciprocity among the beekeepers themselves is the answer to this objection — each planting a given number of acres.—Ewing C. Pershall, Seattle, Washington.

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COLORADO, November 4.

Weather: At this date the weather man has treated us to a third beginning of winter. Snow has come to us in limited amounts twice previously, this time about 5 or 6 inches. It appears as though we might prepare for an old-fashioned winter again. For the past three seasons, winters in this section have been called subtropical. If that be the case, such winters are not wanted here. They are fine for golf and duck hunting but disastrous for agriculture, including beekeeping. Mar-

shall was wrong about the 5-cent cigar. There have been plenty of (good ?) five-cent cigars, but what is really needed is a good five-foot snow in the Rocky Mountains. The concensus of opinion appears to be that were it not for the drouth, the depression would not have reached this far east.

Including the above-mentioned snows, this fall has been delightful, affording an excellent chance to put the bees away for winter. Many fine days have afforded ample opportunity to check all colonies for queens, bees, pollen, and stores and to pack if we be so minded. Rainfall for the year is already above normal by two inches, the soil is in good condition, with present prospects for next year fair to normal.

Honey Crop: It is not news that the 1935 honey crop has been short. It has been fortunate that the crop of the last few years has been short. What in the world would have happened to the price if crops had been large? It is possible that a large crop will turn producers more actively in support of the American Honey Institute and its excellent honey publicity program.

Miscellaneous: There is a new generation of beekeepers coming along in Colorado. Many of the boys, who would have gone to jobs in previous years, have stayed home with dad during the depression and are learning the bee business. Also there seems to be a group of young fellows starting in on their own. Many of these young fellows are going to be successful beekeepers because they are hungry for newer ideas. The newer methods of beekeeping are available to them and they take them eagerly and will soon surpass their seniors in ability to meet the changed conditions with larger crops at lower cost of production. Argue as we may, honey prices will not much exceed sugar prices.

Lower honey prices and drouth have materially reduced the number of colonies of bees in Colorado. Mr. Clay says that seems to be the trend in the West. It is probable that even more honey will be produced in spite of the shrinkage in colony numbers. Difficult years have made us puzzle for better production methods which are apparently now available.

We seem to have neglected at least a small trade in Christmas honey packages. It has been hard to secure appropriate labels and packages. Label makers state that the demand does not justify the effort. But, doesn't Christmas look like a nice opportunity for special honey sales? —R. G. Richmond, Fort Collins, Colorado.

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ARIZONA, October 28.

Weather: September rains were fair, and combined with July and August rains made an abundance of wild flowers over the mountain areas. October has been dry and the bloom and honey flow over a very limited area stopped. I refer to the elevation of around 4500 feet. The country here now is so dry with a heavy carpet of dry grass that there is considerable danger of fire from a careless match or cigarette. The days have been very clear and warm for the past month. With late warm fall it makes our winters here very short. Just November, December and January. In February the bees start gathering pollen and preparations for spring work must begin at that time. This early condition is only true along the lower Gila River.

Honey Crop: Arizona has been put in the column of states reporting a crop above normal. Yet I get persistent reports from the cotton areas that the cotton crop did not come up to last season. Neither was a large crop received from mesquite and catsclaw this spring. The sage produced a good crop, but it blooms over a very small area and does not support a large number of colonies. It does not produce honey every year. It depends entirely on rainfall as to its production. And rainfall is not very dependable here.

Miscellaneous: The Southern Arizona Fair, held at Tucson the first of this month, was well attended and a fine exhibit of honey and beeswax was displayed. Complete extracting equipment was exhibited to show people just how honey was taken from the comb. The exhibit was in charge of W. C. Collier, bottler and distributor of honey over southern Arizona. Few people know just how honey is extracted and I believe the effort put forth in this exhibit was well worth while.—Leslie Wedgworth, Oracle, Arizona.

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TEXAS, November 1.

Weather: During October the weather was ideal. Cool weather with showers predominated. Fall plants bloomed throughout the month and some little additions

to the fall flow in September have been reported. The evergreen sumac continued to bloom until the second week in October. Rock brush, white brush, broom weed and other composites added something to the stores as their blooming season ended. The weather conditions were ideal for honey plants. The rains and cool weather allowed all of the native plants to make heavy vegetative growth and to set the fruit buds for next year. So far as can be predicted, next spring should be an ideal time for beekeepers to make increase to prevent swarming as the bees today have plenty of stores to more than carry them through the winter, even though it proves to be a long one. The honey plants are in shape to give a good early spring flow. Knowing this the beekeepers should make preparations to give their bees the equipment which they will most probably need next spring.

Miscellaneous: Every year that Texas experiences a fall honey flow numerous complaints come in from east Texas relative to honey which has a very unpleasant odor. This year the complaints have been many. Almost every beekeeper living in the river valleys of the eastern part of Texas has noticed this peculiar odor on the fall gathered honey. This odor comes from nectar collected from smartweeds and will disappear in a few weeks if the honey is left in an open container, or in several months if the honey is put in tight cans. The odor is supposed to come from some ingredient in the nectar but as it passes off rapidly it is only a temporary disadvantage. Smartweed honey, after it stands two or three weeks, is one of the best honeys produced.

President T. W. Burleson of the American Honey Producers' League, announces that the next annual meeting of that organization will be held in Texas and at San Antonio. This means that the beekeepers of Texas will be hosts to the beekeepers of the United States. Every beekeeper should begin to plan now to make that meeting one of the best ever held by the American Honey Producers' League.

"Beekeeping for Beginners," Bulletin 255 of the Texas Agricultural Experiment Station, has just been revised and reprinted. This bulletin for which there has been more calls than any other bulletin of the Experiment Station, is now available and can be secured by writing the Director, Texas Agricultural Experiment Station, College State, Texas.—H. B. Parks, San Antonio, Texas.

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EASTERN IOWA, November 5.

Weather: While it has been generally dry the latter part of the summer and fall, we have recently had a fine rain which will benefit the grasses very materially for wintering.

Honey Crop: The 1935 honey crop for Iowa has been spotted. Some localities harvested a fair crop, probably 50 per cent of normal, while others have not been so good. Beekeepers were generally surprised that there was any white clover at all, owing to last year's drouth, and some favored parts yielded a fair crop, while in other localities beekeepers reported there was plenty of bloom but the bees were getting little or nothing from it. It is generally understood that when white clover goes out, it takes two years for it to come back as a source of nectar, and it is one of the unusual things that it produced this year. White clover is in fairly good shape here for another year.

Miscellaneous: Honey on the market is retailing at from 15 to 18 cents per section with extracted at around 45 to 55 cents per 5-pound pail. Demand just fair.

Beekeepers are an optimistic lot as a rule and are looking forward as usual for next year to be better, which with the normal amount of moisture and weather conditions, should be the best they have had for several years. All flows have been light owing to weather conditions and there will be no "carry-over" to speak of. —W. S. Pangburn, Center Junction, Iowa.

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SOUTH DAKOTA, November 8

Weather: Following a spell of near zero weather, the sun is again on duty so the past three or four days have permitted the bees to fly. We expect it to continue mild for some time and will make the best use of the interval by packing for winter. Incidentally, conditions are ideal for rearranging or moving yards to better winter and spring locations, and some of this work is being done.

We have had an extremely dry fall—no moisture of consequence since late August. However, clover was well started by heavy summer rains so will likely be unaffected by this dry period.

Honey Sales: We have heard of no large

yields from any quarter and there seems to be less evidence of honey for sale either on the counters or in advertising than usual at this time of year. There certainly will be no carry-over to worry anyone. Wholesale buyers have offered upward of six cents in this locality, but find few who can supply them. Local retail prices are from 9½ to 10½ cents in pails. Some beekeepers customarily sell much of their crop in 60's by advertising in sectional farm magazines.

Miscellaneous: Late inspection of colonies show an under-supply of pollen in brood chambers. Reports from other beekeepers indicate the same condition, which is bound to have an adverse effect on brood rearing in spring.

Two or three large outfits on the eastern edge of the state and over the line in Minnesota were recently preparing to take some of their bees to a southern state for the winter. It is expected to bring them back as packages and nuclei for the coming season. At least one of these truck shipments will be used to replenish the colonies of a southern beekeeper whose bees were killed by spray poison.

Some methods and paraphernalia that have become considered amateurish here in the sweet clover country: Cellar wintering, single-story brood chambers any time of the year, and queen excluders. Queen excluders, incidentally, went out as the double-brood chamber came in to make them entirely unnecessary and a hindrance to both the keeper and the bees. Top-entrance wintering, considering its successful adaptation to date, is bound to follow as bee culture progresses.—J. F. Norgren, Junius, South Dakota.

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NORTH DAKOTA, November 8.

Weather: The weather this past season has been much more favorable for beekeeping than was the case in 1934. Heavy rains during the fore part of the season were most beneficial to the honey plants but resulted in a somewhat delayed season. The over-wintered colonies and early established package bees built up satisfactorily for the main honey flow, but packages established late did not build up in time to take advantage of the honey flow. Swarming was more of a problem than it has been for several years past.

Honey Crop: For some reason or other, the honey flow came to an abrupt end early in August. The flow up to that time was excellent. Early indications pointed towards a fine crop, but, with the shutting off of the flow so early, most beekeepers found that they had only a half crop. The greatest concern then was whether or not the bees would find enough during the remainder of the season to insure adequate winter stores. During late August and early September their hopes were partly fulfilled in that light flows, particularly from sweet clover bloom, made it possible for colonies to stock their hives fairly well for winter.

Here at Fargo the average per colony production was well over 100 pounds, practically all of which was gathered during late June and the month of July. Reports from other sections of the Red River Valley indicated that practically the same situation prevailed; however, letters received from various other parts of the state show that the honey crop was rather spotted. Some beekeepers harvested very little surplus honey. One beekeeper at Garrison, North Dakota, who lives on the Missouri River bottom lands, keeping upwards of 100 colonies told me that his prospects were nearly ruined by a cloudburst during June which overturned all of his hives and scattered them over a considerable area. He was able to recover most of the hives but not until much of the brood and bees had been lost in the water.

Recently in conversation with a local honey buyer, I was told that the greatest difficulty now is to locate stocks of honey. He told me that practically all the honey is out of the hands of the producers and that there is the possibility of a distinct shortage for the market in the near future. He felt that this would bring about an unsatisfactory condition in the event that the supply of honey will not be adequate for the demand.

In general, the condition of honey plants, particularly the clovers, throughout the state is quite satisfactory as compared with previous years. Fine stands of clover have been encountered in fields in most sections. Right now there is a shortage of soil moisture. Whether or not this will be remedied soon remains to be seen. At the present time there is a blanket of several inches of snow covering the ground, and although cold weather has set in, the frost has entered the soil to only a very small degree. It is rather felt

that the condition of the honey plants is quite satisfactory, especially in the event that adequate soil moisture occurs.—J. A. Munro, Fargo, North Dakota.

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CENTRAL IOWA, November 8.

Weather: The fall rains have been good and there seems to be ample moisture in the ground to assure a reasonable plant growth for next year. There seems to be some little increase in the acreage of the clovers which are foundation honey plants, but many producers are becoming skeptical as to what may happen, for instance in the absence of snow covering, or in the peculiar combinations of rains during next spring. We have been told that a wet May precedes a good honey flow. This year the heavy rains occurred in June which apparently is very disastrous to a honey flow.

Honey Crop: The year 1935 will be remembered as one of the outstanding years in honey production in Iowa. It seemed at the beginning of the season the stage was set for a maximum honey flow. Confidence was high in view of the fact that during the two or three years preceding years of drouth sweet clover had continued to yield nectar and produce a reasonable crop of honey. Weather played funny tricks on the beekeepers. There seemed to be plenty of moisture, plenty of plant growth, and in fact plenty of bloom, but the sad part of the story is that there was no nectar. The bees did not even venture to visit the flowers. It is interesting that this was true not only with sweet clover, which is looked upon fundamentally as a dry weather plant, but upon other clovers and other honey plants. The white clover was prevalent in some areas, but did not yield up to expectations. Basswood did not yield at all in spite of the fact that there was considerable bloom. The yellow sweet clover was capable of producing much honey, but did not prove attractive to the bees. This condition has brought to our attention very factors on nectar secretion. We have got to know more about the weather and its effect upon the production of nectar in plants.

Miscellaneous: The bees in general may be said to have gone into the winter rather light on stores and there are a good many indifferent colonies which were forcefully the influence of environmental placed into winter quarters. On the other hand, there has been a growing tendency on the part of producers to carefully analyze the condition of their colonies in the fall and to adopt a more liberal policy toward fall uniting and fall reorganization of colonies to bring about the best possible colony with which to go into winter. There was a definite increased tendency during the fall of 1934 to kill off bees, conserve the stores and combs, for installation of the package bees in 1936. This may be a temporary trend or it may be an indication of a more permanent trend which will call for a more general use of package bees for honey production in this state.

It is becoming more evident that the production of honey is tied up with the general agricultural program. We can now see rather clearly that the acreage of sweet clover has been decreasing during the last few years and this condition has been aggravated by a shortened rotation. Sweet clover was formerly used for two years in anticipation of corn planting, but the policy has been developing to use sweet clover but one year, therefore, reducing materially the amount of bloom which would be prevalent for honey production. This process has found many beekeepers without a honey producing territory. Fortunately small areas have been opened up and some of the larger producers have found it beneficial to move colonies to new locations. This resulted in a mild form of migratory beekeeping. It is quite possible that the future will see more effort given to the location of bee pastures than has been given in the past, even though it is on a temporary basis. —F. B. Paddock, Ames, Iowa.

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NEW JERSEY, November 5.

Weather: The weather has been extremely mild for this time of the year. During the early part of October we had frost on several occasions, but there has been none for two or three weeks. Bees have been flying a little nearly every day, and, in fact, there is some clover growing on the lawns, and it was possible today to see about twenty bees working the blossoms, growing in a space of about 200 square feet. We have been having some rains and, in fact, can look forward to more wet weather which will make up

for the extremely dry spell we have had during the latter part of the summer. Should the weather stay as mild as it is for much of the winter, it would mean an undue consumption of stores and poor wintering in many cases. It would be better if it were a little colder.

Honey Crop: The northern part of this state, at least, enjoyed a very good fall flow. This was helped, no doubt, by the prevailing good weather during September when the flow is in progress. Apparently the plants yield better during rather dry weather than they do when it is too wet. Smartweed is usually regarded as a good nectar producer, but this year it did not seem to be showing results in the supers, although bees worked it very actively. The earliest bloom came about the middle of August, and was at its height about the first of September. I know of at least one apiary, situated near meadows that were pink with the bloom from this plant. It should have produced a large surplus, but as it was the bees hardly stored anything in the supers. Then, too, in Hunterdon County and other parts of the state smartweed has disappeared due to the ravages of the Japanese beetle. The goldenrod and asters, however, are the other principal fall nectar sources here and they more than made up for the shortcomings of smartweed. Bees were observed actively working aster blossoms as late as October 19, which was some time after most other plants had been killed by frost.

Honey Sales: Those actively engaged in selling honey at retail, report business as being very good. It really is surprising how much honey is being sold by some beekeepers who devote a little time and business methods to the work. Almost without exception, they are getting the very top prices for the best honey. This, of course, because we live in a very densely populated area and there are many people willing to pay the top price for a choice article. Good New Jersey comb honey is a very delicious product and readily sells at a higher price than that brought in from the West. One New Jersey beekeeper recently received two orders, one for 1500 sections and another for 10,000 sections, at $2.40 per dozen. Both of these orders were the outgrowth of business in the past years as the wholesaler had built up a demand for this particular flavor which he could not supply from any source but our own. The beekeeper receiving these orders could not supply them in full as he had his own private trade to look after in addition.

Miscellaneous: The sales tax which was in effect in this state has been repealed. This should be a help in selling more honey as the very small beekeepers did not wish to sell honey without a license and run the risk of penalties and they did not wish to take out a license and keep books for the small amount involved for a certain period of the year. This now has been done away with and sales are unrestricted.—John Conner, North Caldwell, New Jersey.

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MICHIGAN, November 11.

Weather: Fall rains recently broke the dry spell—a welcome break, as some parts, particularly the eastern, were dry. Nearly everywhere we see more clover than in recent years and prospects are heartening for a good clover flow next season. Late summer was so cool that for the first time we found some goldenrod that did not reach full bloom by frost.

Honey Crop: The fall flow was very light. In eastern Michigan some buckwheat helped out. In southern parts of the state a light flow helped the bees get ready for winter, but feeding was necessary in many apiaries. This in the face of no main crop either. In central and northern Michigan the fall flow was a failure generally because of the cool weather. Even tomatoes did not ripen properly and melons were nearly a total failure in this area. Increase had a tough time coming through and needs feeding.

Miscellaneous: Very little honey remains in the hands of the producers. Inquiry is good with prices up ¼ to ½ cent over a month ago in large quantities. The thin honey has moved out and no cases of actual spoilage have been reported. Demand from bakers improves. Local bakers have bought tons where they formerly bought 60's, and this demand is picking up many an odd lot of honey that was formerly peddled about town at a 40 per cent discount from going prices. Power to the bakers! and to American Honey Institute for getting bakers started on using honey in a large way.

Comb honey is the scarcest ever seen. There simply is none left in quantity.

Two meetings: December 4, at 10 o'clock

at Woodman's warehouse, Grand Rapids; and December 18, the annual meeting of the Michigan Beekeepers' Association at the Hart Building, M. S. C., East Lansing, at 10 a. m. All beekeepers are cordially invited. Several important matters will be discussed, and the government film, "The Realm of the Honey Bee," will be shown at the Grand Rapids meeting.

Most of the active male members of the Association have left a forwarding address to their north woods hunting camps for the next two weeks, while they "hunt the bounding stag." Our party will again consume 60 pounds of honey while in camp. We use it for everything but gun oil.—R. H. Kelty, East Lansing, Michigan.

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ALABAMA, November 4.

Weather: September and October have been very dry and warm. The temperature for several days in October reached all time high records. The boneset and aster have stood this unusually well and the fall honey flow has been the best in many years, assuring all colonies of plenty of winter stores. Aster honey causes much trouble in wintering in the North, but with the mild climate allowing flights frequently it causes no ill effect here.

Honey Crop: Due to the number of packages sold in the spring very little surplus honey was produced in Alabama this season. Beekeepers who did not ship packages are practically sold out of honey and are beginning to look around for honey to fill their orders. Some of our customers report lower prices for honey wholesale than last season, but those that have a retail trade report an increased demand at last season's prices. We expect an increase in wholesale honey prices in the near future.

Miscellaneous: Advance orders and inquiries for packages are coming in rapidly and prospects are that the demand will be the greatest in the history of the business as more and more beekeepers are killing their bees and replacing with packages. With the excellent condition of the colonies at this time, the production of packages should be above normal if weather conditions in the spring are at all favorable, but it is doubtful if the supply will be great enough to fill the demand. Some shippers have already sold 50 per cent of their production for 1936. There are, of course, several factors that will affect the demand for packages, such as price of honey, winter losses, and prospects for a honey crop in 1936.—J. M. Cutts, Montgomery, Alabama.

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NORTH CAROLINA, November 7

Weather: The rainfall and other weather conditions were about normal during the spring and summer and were favorable to honey production throughout most of the state, and especially in the eastern part of the state where some of the leading beekeepers have their apiaries. However, in some of the Piedmont and mountain counties, rains and other unfavorable conditions lowered the yield in some localities and caused a failure of sourwood honey, except in the extreme western counties. The weather was about right to encourage a fine growth of goldenrod, asters, and other fall producing plants.

Honey Crop: The spring and summer honey crop was spotted over the state. The yield was good in some of the eastern counties where several leading beekeepers harvested normal crops. Some of them reported better yields than ever before. The Piedmont and mountain counties did not fare so well but good yields were obtained in many localities while others reported only poor to fair yields. General conditions were good for the fall flow. Many fields were white with asters, most of the colonies in normal condition and the weather was ideal. Since about September 20 we have had warm, bright days with very little rain and only a few cool cloudy days to hinder the flight of the bees. Some of the results are that surplus honey was harvested in many localities and the colonies generally are well stocked with stores, an important factor in preparation of colonies for winter and next year's honey flows. Several reports from the Piedmont section mention lespedeza as one of the leading honey producing plants this fall and give it credit for much of the fall crop.—C. L. Sams, Raleigh, N. C.

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WESTERN NEW YORK, November 10.

Weather: The weather here during the latter half of August and through September was very cool. October and November thus far have been fine and above normal. Throughout the season it has seemed that conditions were abnormal. When the honey plants were in condition

to yield, the weather was off, and when the weather was right for bees to work, theplants were not in condition for nectar secretion.

Honey Crop: The clover crop was very short. Buckwheat yielded only for a few day in early August. Local conditions also have been variable. Very few yards have given satisfactory crops and many have been almost failures. Our total per colony yield has been the lowest for many years. Judging by the condition of our own bees and from what I have seen I fear that there will be a heavy loss from starvation this winter through western New York, where feeding has not been done. We have fed more honey and sugar than ever before.

Miscellaneous: Honey is about all sold, and considerable is being imported from without the state.—H. M. Myers, Ransomville, New York.

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ONTARIO, November 9.

Weather: We have just returned from one of our apiaries where we had been fixing a few covers and doing other odd jobs, and while there saw the unusual spectacle of a few colonies carrying pollen as freely as they do in May. Puzzled at first as to the source of this pollen, I soon discovered that bees by the hundreds were on a rank growth of wild mustard or charlock.September was much cooler than usual, and the first week in October was much the same. Then a change came and ever since then we have had weather like early September. While we enjoy the balmy weather, it is not normal for bees to be carrying pollen in mid-November. Conditions have been perfect for getting bees ready for winter and if any bees go into winter quarters in poor shape, some alibi other than unfavorable weather conditions will have to be used.

Precipitation has been very light during the fall months and many complaints have been heard from farmers because of water shortage for stock, etc. Hunters in the northern sections of the province report streams and lakes all high, and the ground very wet so they no doubt have had more rain in those sections. Locally clover looks well. Better prices for alsike seed has stimulated the growing of this clover and from present indications there will be a larger acreage next season than for a number of years past.

Miscellaneous: During the past ten days we have disposed of our two cars of honey held for export, one of buckwheat and one of clover. While prices received are not high, they are higher than we received for last year's crop. As intimated in my last report, bargain sales put on by chain stores are some of the hardest problems the beekeeper has to face, if he is one who tries to get a fair and uniform price for his product. Just a concrete example to illustrate: In one of our nearby towns our honey was being sold freely at 50 cents per five-pound pail, gross weight size. No kick came from customers and all were satisfied. Then a consignment of honey came into town in the same sized pails, part of it from a well-known producer in the Niagara peninsula, and the balance from another well-known beekeeper some distance north of Guelph. No doubt this honey is just as good and probably better than ours, but the chain store featured this honey at 39 cents per pail, which was less than we were getting wholesale for ours. Of course, sales of our honey stopped and I asked the merchant not to cut the price and simply wait till the other bargain stuff was cleared out. No doubt this is simply one case out of hundreds of others all over the country and in the aggregate a tremendous sum must be lost to the producers. In another case I know of, a carload of nice honey was sold to a dealer at a certain figure, and this honey was whiter than ours, as I saw the honey. While we have not secured a big price for our car of clover honey, yet I happen to know that it sold for two cents per pound more than was paid for the carload in question.

This is none of my business except as such deales affect the industry as a whole. Two cents a pound on a car of 30,000 pounds is easily reckoned. Dealers can not be blamed for buying as cheaply as possible as long as the present system of doing business continues. Just what the remedy is I am not able to say, but such experiences as I have related go a long way in prompting producers to do something to try to do away with competition that appears to be hardly fair to all concerned.

By the time this is in print the annual meeting of the Ontario Association will be a matter of history and from present indications it looks as though there will be a big attendance and a lot of interest taken in the proceedings.—J. L. Byer, Markham, Ontario.

Just News

EDITORS

The annual meeting of the Michigan Beekeepers' Association will be held on December 18, at 10 a. m., Horticultural Building, campus M. S. C., East Lansing. The program will be announced December 4. All beekeepers are cordially invited.

A meeting of the Fourth Michigan District Association will be held on December 4, at 10 a. m., at Woodman's warehouse, Grand Rapids. Speakers will be Harold Albaugh, Jay Cowing, Ralph Blackman, Frank Rasmussen D. P. Barrett, and R. H. Kelty. The government film, "The Realm of the Honeybee," will be shown. The big horticultural show is on at this time and all attending can see that at the same time.

A release from the United States Department of Agriculture Press Service, dated November 9, 1935, reads as follows: "An interstate shipment of honey by the Silver Label Products Company, Brooklyn, N. Y., was found by a federal jury at Philadelphia, Pa., Friday, November 8, to be adulterated and mislabeled. Commercial invert sugar had been added. The Food and Drug Administration of the U. S. Department of Agriculture seized a shipment of this company's honey in Philadelphia, May 4, 1935. It was labeled, 'Relco Brand Pure Honey-Quality Pack.' Further actions against this company and other interstate shipments of their products are yet to be adjudicated. Experts of the Department of Agriculture can readily detect the addition of small quantities of commercial invert sugar to honey. It changes the honey's color, turbidity, and taste. Chemical components as ash, nitrogen, and the ratios of the several natural sugars are also changed."

The Ohio Beekeeping Correspondence Course issued in 1933 has been a popular one. Since May, 1933, this course has ranked among the first in enrollment of the Farm Correspondence Courses offered by the University. Beekeepers from over twenty-five states as well as students from Canada, Turkey, South Africa, British West Indies and New Zealand have enrolled in the course. A revised correspondence course in bee culture has been recently issued by the Extension Service at the Ohio State University. The new revision has brought the original course completely up to date. The revised course consists of twelve lessons and takes up thoroughly the various phases of bee culture. The twelfth lesson is devoted entirely to orchard pollination. There is no enrollment fee for the course. Full details may be obtained by request from W. E. Dunham, Division of Bee Culture, Ohio State University, Columbus, Ohio.

The Empire State Honey Producers' Association will hold its annual winter meeting on Thursday and Friday, December 12 and 13, at the Mizpah Hotel, in Syracuse, New York. A program has been arranged to interest both the beekeepers and their wives. Mrs. M. F. Jensen of the American Honey Institute will be with us and give talks and honey demonstrations. For details write to E. T. Cary, Secretary, Midland Avenue and Tallman Street, Syracuse, New York.

The Managing Director of the Bee Marketing Agreement has been advised by the officials in Washington that the Bee Marketing Agreement can continue in 1936 as it has in 1935, if no changes are requested. The package bee and queen shippers in Georgia, Alabama, Louisiana, Mississippi, Texas, and California have expressed their desire to continue with the Bee Marketing Agreement in 1936 as it has been in 1935. This means that the prices and dealer's discount, which have been in effect in 1935, will continue in effect in 1936. It also means that the shippers will respect the requirements of the Bee Marketing Agreement pertaining to quality of packages and queens shipped, statements used in advertising, and they will send their monthly volume of business reports promptly to the office of the Managing Director and pay their assessments. The treasurer, Mr. W. E. Harrell, and the Managing Director, Mr. J. M. Robinson, are both bonded, so that an accurate account of all funds received in the office of the Managing Director must be kept, and an audit made at the end of the calendar year.

Gleaned by Asking

THE EDITORS

Exclusive Wax Production—Is It Economically Possible?

Question.—I have heard and read about the possibility of feeding the honey crop back and back again to the bees for wax production. Could you kindly outline to me the best way to do this and how much honey it will take to produce a centumweight of wax this way?—Albert Kehrt, Guatemala.

Answer.—In countries where honey is of poor quality and the price low, it has been fed back to bees for the purpose of constructing comb. The honey is extracted and the comb melted up into wax. The process is repeated again and again. The combs for wax production should be built above queen excluders. Producing wax in this way is very hard on bees. They wear out speedily, as they do when sugar syrup is fed. Constant brood rearing must be kept up to replace the loss due to wear and tear on the bees. As a rule, exclusive wax production is not profitable and is advisable only when honey is of very poor quality and unsalable. Conditions vary, but it will take from four to ten pounds of honey to produce a pound of wax. In the olden days it was believed that it took twenty pounds of honey. This figure has been shown to be too high.

Uniting Weak Colonies in December

Question.—Due to a rush of work I neglected uniting a few colonies earlier in the fall. I rather think the colonies are too weak in bees to winter successfully. Do you think it would be advisable to unite during this month?—J. M. Hall, Ohio.

Answer.—Remove the empty combs from the hives of the two colonies to be united. Lift carefully the combs with adhering bees out of one hive, over into the other. During this time of the year, when there is no brood in the combs, such colonies will unite quite easily and without any fighting. This work should be done during a day when the sun is shining and when the weather is reasonably warm.

To Prevent the Honey Tank from Rusting

Question.—The inside of my honey tank is beginning to rust in a few places. What can I do to remedy this condition and to prevent further rusting?—A. J. Frank, Kansas.

Answer.—Apply sandpaper to the rusty parts and then use alminum paint. Possibly the interior of your tank should be covered thoroughly with aluminum paint. This paint, after it is dry, will not taint the honey.

Honey in Glass vs. Honey in Tin

Question.—One of my customers asks if honey in glass is more healthy than honey packed in tin?—Roscoe F. Wixson, New York.

Answer.—Honey in tin should be equal in every respect to honey in glass. As a rule, the lighter-colored and better flavored honeys are put in glass while the darker colored honeys are put in tin. In any event, one should not be any more healthful or more easily assimilated than the other.

Feeding Bees During Cold Weather

Question.—When going through my yard hefting hives recently I found three that seemed to be rather light in weight. I do not have any combs of honey to feed the bees. Is it too late to feed sugar syrup? If feeding is possible how should I go at it?—James G. Hill, New York.

Answer.—Of course, the proper time to feed bees is during early October, at which time they will take sugar syrup quite readily, provided the weather is not too cold. By all means, feed your bees as soon as possible, but if the weather is cold give hard candy made from granulated sugar. If the weather warms up so the bees can fly naturally you can give more syrup hot. For making sugar syrup, use only the best grade of granulated sugar. The syrup should be mixed in the proportion of two parts of granulated sugar to one part of water, either by weight or by measure. The sugar should be stirred into the water which should be heated to the boiling point. The stirring should be continued until all the granules are dissolved. One of the most convenient feeders is a ten-pound friction-top pail with about 20 small holes punched in the cover of the pail with a three-penny nail. The syrup should be fed while hot. The pail of syrup should be inverted over the frames of the brood chamber after the cover of the hive is removed. This places the syrup where the bees can get to it conveniently. An empty super should be placed under the regular hive cover to protect the feeder while the syrup is being taken. During cold weather it is an advantage to place some pieces of burlap or old sacks over the top of the pail, and also on top of the frames to retain the heat of the syrup so that it may be taken readily. Full directions for making hard candy will be sent free to our subscribers.

BUY AND SELL HERE

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

FOR SALE—Clover extracted. F. W. Lesser, Fayetteville, N. Y.

FANCY clover and fall honey. Kalona Honey Co., Kalona, Iowa.

NEW crop clover comb and extracted. C. B. Howard, Geneva, N. Y.

CHOICE white clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

MICHIGAN white extracted in 60's. M. H. Hunt & Son, Lansing, Mich.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

FOR SALE—Clover extracted, 7c. Creston Honey Company, Creston, Iowa.

LIGHT amber goldenrod honey at 6c. The Vik Apiaries, Independence, Ohio.

WHITE clover comb and extracted honey. Porterholm Apiaries, Adrian, Mich.

FINE white clover honey in 60-lb. cans, 7½c per lb. Jos. H. Hoehn, Ottoville, Ohio.

MICHIGAN choice clover honey, case, $8.40. Sample, 10c. Abel Totems, Owosso, Mich.

WRITE me for prices and samples of honey. I can please you. Thos. S. Sherfick, Shoals, Ind.

NEW YORK State clover extracted honey in new 60's, two per case. H. B. Gable, Romulus, N. Y.

HONEY in bottles; 4, 8, 16, 32 ozs., 2½, 5, 10, 60-lb. pails. J. Scarff & Son, Box 536, Syracuse, N. Y.

20,000 pounds extracted amber honey at 6½c; light amber, 6¾c. New cans and cases. Valley View Apiaries, Savanna, Ill.

MICHIGAN'S finest well ripened white honey in new 60's. Sample, 15c. Jay Cowing, Jenison, Mich.

WHITE and sweet clover honey, new cans and cases, $8.00 per case. Martin Carsmoe, Ruthven, Iowa.

FINE quality palmetto or mangrove honey, in new sixties. Sample, 6c. Peter W. Sowinski, Fort Pierce, Florida.

CLOVER honey, choice, ripened on bees. Satisfaction guaranteed. Case or quantity. J. Stahlman, Grover Hill, Ohio.

FOR SALE—Nice clover extracted filtered through muslin, 7½c; dark amber, 6½c per pound; two 60-lb. cans to case. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Extracted white and buckwheat honey in 60, 12 and 5 lb. cans. Comb honey in 2-doz. cases. I. J. Stringham, Glen Cove, New York.

FINE white clover extracted honey in new 60's. Sample, 15c. Noah Bordner, Holgate, Ohio.

FINEST clover honey, case, $8.40. Sample, 10c. Martin & Fuller, 220 South Dewey, Owosso, Mich.

OUR new crop of finest Michigan clover honey is now ready for the market. New cans and cases. Speak for your needs during the coming season. E. D. Townsend & Sons, Northstar, Michigan.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

RASPBERRY HONEY—In 60-lb. cans, for 9c a lb. In 10-lb. cans by mail, postpaid up to and including fourth zone, for $2.00 a can. Sample by mail, 20c. Elmer Hutchinson & Son, Lake City, Mich.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Colo.

HONEY AND BEESWAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the sellers.

WANTED—Light and amber honey. Riverside Apiaries, Russell, Illinois.

WANTED—Comb and extracted honey. Wm. March, 12801 Woodland Ave., Cleveland, Ohio.

WANTED—Comb and extracted honey. Mail sample, state quantity and price. Sherfick Farms, Shoals, Ind.

WANTED—Honey, all grades, amber and capping melter honey our specialty. Blue Ribbon Honey Co., Gurnee, Ill.

WANTED—Chunk, comb and extracted honey in any amounts, best prices paid. Central Ohio Apiaries, Millersport, Ohio.

WANTED—White clover, amber and buckwheat honey in 60-lb. cans; comb honey. Roscoe F. Wixson, Dundee, New York.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Car lots or less, clover extracted honey and light amber, new cans. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

SPOT CASH PAID FOR COMB AND EXTRACTED HONEY. Send samples and best price. C. W. Aeppler Company, Oconomowoc, Wisconsin.

WANTED—HONEY FOR CASH. Truck lots or carloads, good Illinois, Indiana, Michigan, Ohio, Wisconsin, Minnesota, Dakotas and western honey. We are large cash buyers. Write us. W. F. Straub & Co., Chicago, Ill.

WANTED—Honey. Russell Smalley, Rippey, Iowa.

WANTED—Honey and beeswax. Beekeepers will find it to their advantage to communicate with us. Please send sample, state quantity available and prices. California Honey Company, Hamilton & Company, Agent, 108 W. Sixth St., Los Angeles, California.

FOR SALE

YOUR wax worked into medium brood foundation for 15c pound. Fred Peterson, Alden, Iowa.

ELECTRICAL uncapping knives, $10.00 each with thermostat, $1.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

FRAMES—Standard Hoffman, $29.50 per 1000. Other supplies. Price list free. Northern Bee & Honey Co., Osceola, Wisconsin.

QUALITY bee supplies. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies. The Hubbard Apiaries, Onsted, Mich.

STRAW BEE HIVES for roadside honey selling stands; English and landscape gardens; estates. Photos on request. G. Korn, Berrien Springs, Mich.

BEST quality bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Assoc., Denver, Colo.

FOR SALE — Fine quality queen-mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Mich.

BEES AND QUEENS FOR SALE

PACKAGES for 1936. No increase in price. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

CHOICE Italian queens. White Pine Bee Farms, Rockton, Pa. With Gleanings from 1911.

GOOD young Italian queens mailed any time. Order now, 75c. each. D. W. Howell, Shellman, Georgia.

MOUNTAIN Gray Caucasian bees and queens for 1936 delivery at code prices. P. B. Skinner Bee Co., Greenville, Ala.

CAUCASIAN bees and queens. Booked up for 1935, but accepting orders for 1936 delivery. Bolling Bee Co., Bolling, Ala.

WE solicit an opportunity to bid for your 1936 package bee and queen requirements. Citronelle Bee Co., Citronelle, Ala.

GOOD Caucasian queens and package bees for 1936 delivery. Booking orders now. Lewis & Tillery Bee Co., Greenville, Ala.

ITALIANS and CAUCASIANS. When in the market for queens and bees, get in touch with Weaver Apiaries, Navasota, Texas. Agents for Pinard Nailless queen cage.

FOR SALE—300 colonies of bees in modern 10-frame standard equipment, well located in 6 yards; they have lots of honey and extracting equipment. Bees guaranteed free from disease. T. W. Burleson & Son, Waxahachie, Texas.

MISCELLANEOUS

GENERAL job printing. A. Matson, 21513 Donaldson, Dearborn, Mich.

HELP WANTED

WANTED—Helper immediately. State wages desired. Man selected must pay own transportation. Permanent work if services satisfactory. Sandwich Island Honey Company, 3515 Harding Ave., Honolulu, Hawaii.

SITUATION WANTED

YOUNG MAN wants work with package shipper. A. C. Lettner, Fountain City, Wis.

HONEY GATE for 60-lb. cans. Screw it on your can of honey and you are ready to fill your small containers. Well-made. Nickel-plated. Measure across top of cover for size wanted. 2¼ to 3 inches. Only 88c plus postage. Weight, 1 lb. Satisfaction guaranteed or money refunded. Keep this ad. **ERNEST FAHLBECK, Manufacturer, 406 South Springfield Ave., Rockford, Ill.**

PACKAGE BEES and QUEENS
All Shipments Covered by State Inspection.
SHASTA APIARIES
SHASTA, Shasta Co., CALIF.
Geo. W. Moore *F. W. Chapman*

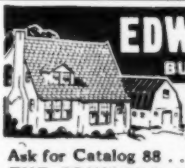
Carniolans
Caucasians

We wish you all a very merry Christmas and a happy and prosperous season for 1936. We will try to help make it so with our fine Carniolan and Caucasian queens and bees.
ALBERT G. HANN, GLEN GARDNER, N. J.

Dependable Italian Queens
INSTANT SERVICE
CODE PRICES
15% discount to dealers
CALIFORNIA APIARIES
J. E. Wing. Cottonwood, California.

CAUCASIAN APIARIES
BROOKLYN, ALABAMA
Breeders of Mountain Grey Caucasian Bees and Queens. Write for our descriptive circular.

Package Bees for 1936
WRITE FOR PRICES
THE CROWVILLE APAIRIES
WINNSBORO, ROUTE 1, LOUISIANA.
J. J. Scott.



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Protect your buildings from fire, lightning, wind and weather before advancing costs force next price raise.
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THE EDWARDS MANUFACTURING CO.
1233-1283 BUTLER STREET CINCINNATI, OHIO

DETROIT CONVENTION

(Continued from page 739.)

Cookies—1, E. Chafin, Elkhorn, Wis.; 2, Mrs. A. A. Doenges, Defiance, O.; 3, Waysmith Roy, Sparta, Wis.; 4, Mrs. Ed. Rauchfuss, Powell, Wyo.; 5, Mrs. H. Chafin, Elkhorn, Wis.; 6, Sister M. Praxedes, Mt. St. Benedict, Crookston, Minn.; 7, Mrs. A. G. Gill, Evanston, Ill.; 8, Mrs. W. Diehnelt, Menomonee Falls, Wis.; 9, Julius N. Roy, Fenwood, Wis.; 10, Mrs. Paul Daellenbach, Brookside, Mont.

Candy—1, Mrs. H. W. Knight, Dalton, Wis.; 2, Mrs. A. Bodenschatz, Lemont, Ill.; 3, Sisters St. Benedict, Crookston, Minn; 4, Louise Diehnelt, Menomonee Falls, Wis.; 5, Miss E. Chafin, Elkhorn, Wis.; 6, John Karch, Madison, Wis.; 7, Esther G. Elliott, Timmoth, Colo.; 8, J. N. Roy, Fenwood, Wis.; 9, Mrs. R. Glock, Roswell, New Mexico.

Mrs. Jensen referred to National Honey Week. When the Institute first started with it, there was some question as to whether it could be put over but now it has come to be a permanent feature of the Institute work. At first the national druggists would have nothing to do with National Honey Week, but now they are taking hold of it the same as the grocers and the food departments of various newspapers, and of great corporations that have special foods for sale.

Miss Mercedes Cranston, assistant secretary of the American Honey Institute, gave a very interesting talk on the need of research in honey cookery. Honey must be used in ways other than spreads. It has many competitors and it requires good salesmanship on the part of beekeepers in selling their products. She called attention to the fact that a few beekeepers do not practice what they preach because they do not have honey on their tables regularly. Every beekeeper should be a user of honey.

She had attended numerous beekeepers' picnics and found no honey used in cakes, breads or cookies. Perhaps some of them had tried honey and became disgusted. One trouble is that the average housewife does not measure accurately; in other words, she does not follow directions.

The Canadian Honey Federation

Miss Newberry of the Canadian Honey Federation, Guelph, Ontario, mentioned pamphlets the Canadians use entitled, "Honey and How to Use It." Experiments are being conducted with reference to the use of honey for infants.

W. D. LeMaistre, of Guelph, Ontario, said that Canada produces approximately 30,000,000 pounds of honey, and that 60 per cent of the buying power of Canada is in Ontario. It appears that the per capita consumption of honey in Canada is higher than it is in the United States.

Government Work Relating to Bees

James I. Hambleton, in charge of Bee Culture Investigation work of the Bureau of Entomology and Plant Quarantine with headquarters at Beltsville Research Center, Beltsville, Maryland, outlined some of the work that the government was doing for the development of bee culture throughout the United States.

The main bee culture laboratory is located at Beltsville Research Center, Maryland, from which all research work of the government is being directed. There are several other bee culture laboratory stations at strategic points in the United States, one at Laramie, Wyoming, Davis, California, and Baton Rouge, La. At any and all of these stations special work, covering climatic and local conditions as they apply to bee culture, is being carried on under the general direction of the bee culture laboratory at Washington, or more exactly, at the Beltsville Research Station, Maryland.

At the Pacific Coast Bee Culture Laboratory at Davis, the study of the cost of honey production was undertaken and of the 224 apiaries under consideration only 8 per cent made a profit, while 92 per cent operated at a loss. In California, however, many of the beekeepers are migratory. Many yards are moved from one locality to another as the season changes. This, of course, would make the cost of operation come a little higher than in other states where there is little or no migratory beekeeping. All of this means that there should be better methods and better beekeeping.

Complaint is often made about the little beekeeper but he is the man who advertises the honey. Many of them ultimately develop into efficient commercial beekeepers. If there were no beginners there would soon be no commercial producers.

At Laramie, Wyoming, where they were operating in connection with the University of Wyoming, they have been testing out the value of pollen. There is a shortage of pollen in that vicinity. Various amounts of pollen were given to colonies to test out the effect. Bees with pollen made, of course, the best gain. Those without pollen, or very little, barely held their own. The lack of pollen to some extent accounts for winter losses because without pollen, bees will not breed as they should, giving the colony young bees to

stand the winter. They found that a colony with 70,000 bees would produce proportionately much more honey than a colony with 40,000.

At Baton Rouge, operating in connection with the University of Louisiana, various pieces of work are being undertaken. Among them is the problem of the early supersedure of queens in package bees. A study is also being made along the line of disease-resistant bees. Mr. Hambleton made it plain, however, that this sort of work can not be carried on properly without trained men.

He said that their office at Beltsville was always glad to help out beekeepers with their individual as well as with their collective problems. He hoped that this congress of beekeepers might come to Washington, D. C., in 1937. It is not an expensive place in which to stop, and he hopes that the new officers will favor Washington, two years hence.

Bee Inspectors Round Table Discussion

One of the most interesting side sessions was that of the bee inspectors of some of the states, including Ohio, Alabama, California, Illinois, Iowa, Michigan and also Ontario, Canada. The inspectors enjoyed this opportunity to compare notes and swap experiences. The editors of the bee journals, C. B. Gooderham, Dominion Apiculturist of Ottawa, Canada, and James I. Hambleton, Senior Apiculturist, of Washington, D. C., were invited.

Thomas Atchison, bee inspector for Alabama, said they use the quarantine system. One inspector has examined as many as 400 colonies per day, with helpers to open and close hives, also to remove the combs. Alabama being a state from which package bees are shipped in quantities, commercial apiaries are quite large, easily accessible and can perhaps be inspected more rapidly than the average small apiaries not owned by bee shippers.

Dr. E. J. Dyce speaking for Ontario, Canada, mentioned the registration fee of $1.00 per apiary which Ontario beekeepers pay to supplement the bee inspection fund. It is necessary in Ontario to do a great deal of inspection work quite early in the season before the major honey flow starts early in June. One inspector may supervise the work of six or seven counties.

Michigan's inspector, D. P. Barrett, referred to their registration fee of 75 cents per apiary, which amounts to approximately $4.50 for the average beekeeper. Fifty-one per cent of the money secured for inspection has come from small beekeepers.

H. M. Krebs, formerly Michigan bee inspector, and at present inspector for California, said his state has the registration system but no fee. Each county has an agricultural commissioner. Inspection work is difficult because of migratory beekeeping. It is common for beekeepers to move their apiaries a distance of 600 miles. To keep tab on these apiaries throughout the season is not an easy matter. With a large percentage of the bees in California on wheels it has been found that one-fourth of a mile auto mileage is required for each pound of honey.

Mr. Charles Reese, Ohio apiary inspector, gave a brief review of Ohio's method of raising additional funds for inspection work. Quite a number of the counties in Ohio, forty-one to be exact, have already appropriated funds for inspection work. Each of these counties has a deputy inspector who works under Mr. Reese. This plan appears to have merit and is gaining in popularity throughout the state.

The question was asked of Mr. Krebs whether or not it is true that 95 per cent of the infected material in California is burned. Mr. Krebs replied by saying that 99 44-100 per cent is destroyed. It was the general concensus of opinion that destroying infected material including the bees, combs and honey, when found, is the only satisfactory method of dealing with American foulbrood.

Some of the inspectors raised the question as to whether the bee journals should publish articles on experimental work being done along the line of trying to find a strain of bees resistant to A. F. B. These inspectors feared the printed discussions might be misunderstood by the readers and might result in a general laxity among beekeepers in their fight against the beekeepers' worst enemy, American foulbrood. The consensus of opinion was that bee journals, when and if they do publish articles on resistance and immunity, should make it clear that it may take many years of scientific painstaking work to get at the truth concerning this matter. In the meantime beekeepers should co-operate with their state bee inspectors in following the method prescribed for dealing with disease.

(Continued next issue.)

Write us for your 1936
Package Bee and Queen
Requirements

Garon Bee Company
DONALDSONVILLE, LOUISIANA.

Package Bees & Queens

Satisfaction guaranteed. Health certificate with each shipment. One of our customers wrote that ours were the best he had ever used; another in test said one of our queens tied for first place in production.

A. J. HOOK & CO., EUTAW, ALA.

BEES and QUEENS

——FOR 1936——

22 years a commercial queen breeder. Pure three-banded Italians. We are prepared to fill your requirements. Same prices as in 1935 will prevail. Send us a list of your needs. For bees and queens of highest quality, and service that will delight you, we solicit your business. Now booking orders for spring delivery.

JENSEN'S APIARIES, MACON, MISSISSIPPI
(Formerly Crawford, Miss.)

PACKAGE BEES FOR 1936

Write for prices, also our proposition to trade for extracted honey in 60-lb. cans.

GOOCH APIARIES
FARMERSVILLE, TEXAS.

Big Meetings Attended Recently

(Continued from page 733.)

tute may be established. Other speakers were L. R. Stewart, Newport, Ind.; C. L. Duax, State Bee Inspector; Frank C. Pellet and M. G. Dadant, of the American Bee Journal; V. G. Milum and Mrs. S. S. Claussen.

The Association officers elected for 1936 are: President, W. G. Duckwell, Jacksonville, Ill.; Vice-President, Adam Bodenschatz, Lemont, Ill.; Treasurer, W. W. Osborn, Hillsdale, Ill.; Secretary, E. F. Peterson, Kewanee, Ill.

The Indiana State meeting, held in Indianapolis, October 30 and 31, was well attended. Mr. T. C. Johnson, of Logansport, Indiana, Vice-President, presided in the absence of the President, who was ill. Guy Cantwell, President of the Fair Board, emphasized the importance of displaying honey attractively at fairs, also the need for whole hearted co-operation among beekeepers in this work which helps to make the public more honey-minded. Frank Wallace, State Entomologist, referred to the bee inspection work and the need for extending inspection into areas of the state that still need it. James E. Starkey, state bee inspector, reviewed work accomplished during the past year and mentioned plans for the future.—M. J. Deyell, Medina, Ohio.

WHO WILL GET YOUR

1936 BEE and QUEEN orders. Try MERRILL'S service and stock. You will be pleased.

MERRILL BEE COMPANY
Mississippi's Oldest Shippers
BUCATUNNA, MISSISSIPPI

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American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

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American Bee Journal, Hamilton, Illinois

Packages and Preparedness
FOR 1936

Will you be ready for the coming season? A honey shortage is already reported in many sections of the country and prospects for the honey producers were never more encouraging than now. We have never stopped and will have everything in readiness in advance of the season which will enable us to give customers 100% service. Added expense on our part to improve quality and shipping makes our prices the lowest ever, but our prices will be the same and the difference will be passed on to you in higher quality. Last season was the greatest in our history, more bees and queens shipped, but we are expecting the coming season to be far greater and we are prepared to meet it with a larger output, higher quality and better service. We urge customers to book their orders now, have everything ready in advance of the season and be assured of your bees when wanted.

Young Laying Italian Queens 75c each, any number.
Tested Italian Queens, $1.50 each, any number.
Two-pound packages Italian bees with Queens, $2.45 each, any number.
Three-pound packages Italian bees with Queens, $3.15 each, any number.

Safe arrival, freedom from disease and satisfaction guaranteed. All orders will be greatly appreciated and none will be too large or small for us to handle as our output will be around 500 packages per day during the main shipping season. If not acquainted with us, our bees, or service, ask any of our customers, or refer to any bee supply house or any bee journal in the U. S. or Canada.

We are also dealers for Lewis Beeware and Dadant's Foundation at Catalog Prices.

York Bee Company, Jesup, Georgia
(The Home of Quality Products)

Swarming—Its Control and Prevention

by L. E. Snelgrove, M. A., M. A. B. Sc.

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Gleanings in Bee Culture

Volume LXIII February, 1935 Number 2

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THE STOVER APIARIES, TIBBEE STATION, MISS.

Gleanings in Bee Culture

MARCH

March has set the whole world shaking,
  There is storm and sun,
Earth and roots and hearts are waking,
  Miracles are done.

From a secret place, a whirring;
  See the sudden wing!
All around is something stirring---
  March has brought the spring!

While the sullen clouds and leaden
  Get them grimly by,
March has let the maples redden
  Up against the sky.

There the bees are coming, going,
  Thru the fringy trees---
Tell me how you knew, you knowing
  Uninstructed bees!

---Grace Allen

Volume LXIII March, 1935 Number 3

Package Bees

BABY ITALIAN BEES
LIGHT, WELL CONSTRUCTED CAGES
PROMPT SHIPMENTS COURTEOUS DEALINGS
ARE WORTH ? TO THE BUYER

For 23 years we have labored to attain these for our customers. Each year in the 23 years your increased orders are our reward for our efforts. We will be satisfied only when we can improve the quality of service for you.

• • •

Queens

WHAT ARE THEY?
HOW ARE GOOD QUEENS PRODUCED?
DOES EXPERIENCE IN PRODUCING IMPROVE THE QUALITY?
ARE GOOD QUEENS PRODUCED CHEAPLY?
CAN BETTER ONES BE PRODUCED?

All of these are questions of vital importance to the buyer. They are just as vital to us if we expect you to keep favoring us with your orders. We are trying harder than we have ever tried in our 23 years' experience. We can care for your needs in Bees and Bee Supplies. One small profit is all we ask. We put the balance in Quality for You.

• • •

Prices

Two-pound packages with queens	$2.45 each
Three-pound packages with queens	3.15 each
Untested Italian Queens	.75 each

• • •

The Stover Apiaries, Mayhew, Miss.

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Gleanings in Bee Culture

BEES IN APRIL

Drifting down the ages
On the wings of time,
April dawn comes rippling in
Like a little rhyme,
Rippling in and dancing
With her daffodils,
Dropping unexpected things
Over startled hills.

April with your treasures,
Have you ever guessed
Which of all your graceful gifts
My heart loves the best?
Not your lilting birdsong,
Not your swelling trees,
Not your brimming buttercups--
Bees, dear! Bees!

How you set them humming!
When their gauzy wings
Flash across my world, ah! then
My whole world sings.

---Grace Allen

Volume LXIII April, 1935 Number 4

Better Package Bees

If there is a better race or strain of bees in the world, tell us about them. We want to get them. Seventeen years ago we secured our foundation stock from Dr. C. C. Miller, which we have constantly tried to improve.

BABY BEES

We are so situated that our colonies never become very populous, so you are sure of the best age bees.

SERVICE

Our life work with bees and our quarter of a century of shipping experience enable us to offer you **BETTER SERVICE** than ever before.

• • •

Queens

We would rather be able to produce really Superior Queens than to accomplish any other one thing in beekeeping. Nothing pays the beekeeper so well as good queens. Nothing is left undone to produce the **BEST QUEENS** for you.

WE ARE HERE TO SERVE YOU.

• • •

Prices

Two-pound package bees with queens	$2.45
Three-pound package bees with queens	3.15
Untested Italian Queens	.75

• • •

The American Honey Institute is fighting to better your interests. Don't forget your contribution to them.

The Stover Apiaries, Mayhew, Miss.

B & L LIBRARY

Gleanings in Bee Culture

May Time is
Blossom Time

Volume LXIII May, 1935 Number 5

PACKAGE BEES

May Delivery. We are in better position to give prompt delivery of May orders than we have ever been. If you have empty hives or decide to make increase at the last minute send us your order. We will handle it to your entire satisfaction.

RUSH ORDERS—We will hold ourselves in readiness to serve as many as possible of the last minute calls from those in the DROUTH STRICKEN area should you get moisture at the last minute.

SERVICE—We have never been in as good position to give service as we are this season.

TONS OF BABY BEES—We have tons of BABY BEES hatching each week and from now on there will be very few in any package that will be over a week old.

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In all of our life of producing GOOD QUEENS we have never before been in position to furnish as many and as good Italian QUEENS as we are today.

GUARANTEE—We guarantee that our bees and queens will reach you in good condition and that any that do not will be replaced if you return the dead queens or send us bad-order receipt from express company. EVERY QUEEN, EVERY PACKAGE, is guaranteed to be as good as money can buy.

WE WELCOME THE CANADIAN HONEY FEDERATION—We hope that you ride to success on the broad shoulders of every Canadian Beekeeper.

WE APPRECIATE THE AMERICAN HONEY INSTITUTE—Your efforts have borne much fruit for the American Beekeeper and our hope is that every beekeeper will rally to your support and help you in your great work.

——PRICES——

	To June 1.	After June 1.
2-pound package bees with queens	$2.45	$1.95
3-pound package bees with queens	3.15	2.55
Untested Italian queens	.75	.50

We have spared neither MONEY nor EFFORT to produce the BEST BEES and QUEENS for you and to give you the best POSSIBLE SERVICE.

Prompt telephone and telegraph service. Two telegrams usually cost more than one telephone call using evening rate. Telephone 2803, Westpoint, Mississippi.

The Stover Apiaries, Mayhew, Mississippi

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Gleanings in Bee Culture

JUNE

June, you are mine
With your shimmer and shine!
Your radiant gleaming
And delicate dreaming
Have run thru my veins like Arcadian wine!
June, you are mine!

Roses and bees
And the sun on the trees--
These are a part of you,
Out of the heart of you,
Open old doors with mysterious keys--
Roses---and bees.

June, I am yours,
By all magic lures!
Bees in their coming
And going and humming
Have woven my heart in a web that endures--
June, I am yours.

--- Grace Allen.

Volume LXIII June, 1935 Number 6

The New HAZEL-ATLAS

SKYLINE HONEY JARS

A modern honey jar that combines an up-to-the-minute sales-boosting design with the practical considerations that appeal to the packer; big, smooth label space, wide mouths, heavy bases. Capacities from left to right: one-half pound; one pound; two pound; three pound; and four pound. Write for prices and free sample.

HAZEL-ATLAS GLASS CO.

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Gleanings in Bee Culture

NUPTIALS OF THE BEES

Upon the door sill basking in the sun,
Her Royal Highness, groom'd with tender care,
Sits dreaming as her ladies one by one
With gracious mien extend her queenly fare.
She feels the gentle zephyrs as she sings,
And views the nectared flowers of every hue,
And far aloft she hears the whirr of wings
Deep in the crannies of cerulean blue.
But still she lingers; loath to change her state,
Like any bride, though love be deep and strong,
When suddenly the clear voice of her mate
With loving candor, begs her not prolong
Their destined rendezvous at some far height,
And lo! the virgin queen has taken flight.

—Florence Holt Davison.

Volume LXIII July, 1935 Number 7

Queens Queens Queens

ONE QUEEN,

OR ONE DOZEN QUEENS,

OR ONE HUNDRED QUEENS,

OR ONE THOUSAND QUEENS.

We guarantee immediate shipment of bees and queens on receipt of your order.

This year our output of queens has been doubled. Our queen rearing yards are in charge of experienced men who have been trained for years by Mr. D. D. Stover. These men are carrying on.

ALL PRICES REDUCED JUNE FIRST

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Prices of Quality Bees and Queens

Untested Italian Queens	**$0.50**
2-lb. Package Bees with Queens	**1.95**
3-lb. Package Bees with Queens	**2.55**

Get better crops with our bees and queens.

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Support the American Honey Institute. The Institute advertises your honey.

• • •

BEE SUPPLIES

We are equipped to furnish you supplies accurately made of cypress, "The Wood Eternal." If you want them to last, ours can't be beat.

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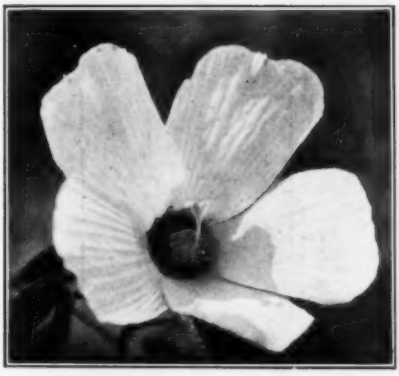
The Stover Apiaries, Mayhew, Mississippi

Gleanings in Bee Culture



Oh lovely flower,
Of beauteous hue and fragrance divine,
Thy grace is unrivaled!
Thy glory sublime!

Volume LXIII August, 1935 Number 8

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Gleanings in Bee Culture

A glimpse of the queen-rearing yard of G. P. Beyleveld, of South Africa

Volume LXIII September, 1935 Number 9

HONEY CONTAINERS

FOLLOWING retail container prices, subject to change without notice, September 30, 1935, are F. O. B. shipping points shown. If your order amounts to $50.00, we allow 5 per cent off, $100 we allow 10 per cent off. Terms, cash with the order. Continental tin containers, Hart Modernistic Sunburst glass jars, except 3-pound size is plain round jar.

	—A—	—B—	—C—	—D—	—E—
2½-lb. cans, 100 in ctn., wt. 31 lbs....	$3.85	$3.85	$3.80	$3.90	$3.90
5-lb. pails, 50 in ctn., wt. 27 lbs.....	3.45	3.45	3.35	3.45	3.45
10-lb. pails, 50 in ctn., wt. 45 lbs.....	4.95	4.95	4.85	5.00	5.00
5-gal. cans, 2 in wood case, wt. 15 lbs..	1.00	1.00	1.00	1.00	1.00
5-gal. cans, 50 in crate, wt. 175 lbs....	16.00	16.00	16.00	16.00	16.00
½-lb. jars, 24 in ctn., wt. 12 lbs.....	.67	.67	.63	.69	.69
1-lb. jars, 24 in ctn., wt. 21 lbs.....	.88	.88	.85	.90	.90
2-lb. jars, 12 in ctn., wt. 17 lbs.....	.60	.60	.60	.65	.65
3-lb. jars, 12 in ctn., wt. 21 lbs.....	.73	.73	.66	.73	.73

A—F. O. B. Watertown, Wis. B—F. O. B. Sioux City, Ia. C—F. O. B. Wheeling, W. Va. D—F. O. B. Lynchburg, Virginia. E—F. O. B. Albany, New York.

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THESE beautiful blue and white cartons with a large cellophane window show up section honey to the best sales advantage. The color combination blends wonderfully with the white comb surface and the large window shows an enticing area of honey comb to the buyer. Flowered around the edges with clover blossoms and completely enclosing the section, keeping it free from contamination, these cartons sell honey for more money.

R644—4¼"x1⅞" Beeway.
R645—4¼"x1½" No B'way.
R646—4"x5"x1⅝" No B'y.

100, $1.20; 500, $5.50
1000, $10.00.

Weight, 6½ lbs. per 100; 55 lbs. per 1,000. All postage extra.

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	100	500
R649—Colored 4¼	$0.85	$3.95
R664—Plain 4¼	.55	2.50
R654—Colored 4 x 5	1.00	4.35
R658—Colored Bag 4¼	.95	4.05
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Above postage extra. Wt. 100, 1 lb.; 500, 5 lbs.

If you need 25,000 wrappers, write Watertown for special price. Write Lynchburg for prices on all cellophane plain wrappers.

See general catalog for other fall equipment.

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B & Z LIBRARY

Gleanings in Bee Culture

Volume LXIII October, 1935 Number 10

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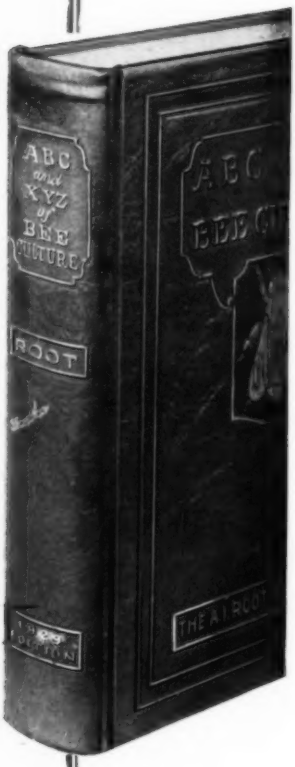

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"How fine a book this new A B C and X Y Z book is! What a lovely cover! And what an excellent arrangement. It is all superlative. I have spent most of the morning with it and my enthusiasm grew with each page turned. That I like it a lot and that the more I read the more I like it, is heartily and undeniably true."—Tennessee.

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LIBRARY

Gleanings in Bee Culture

THE FATE OF THE DRONES

A strong prescience of the summer's close,
Fans smouldering hatred suddenly to life,
And from the walls where idle drones repose,
There comes the sound of bees in deadly strife;
For now the pathway to each honey cell
Is closely guarded by a venomed sting,
As outraged workers bitterly repel
The useless fathers where they blindly cling.
They'll sip no more the sweets of luxury,
Nor laze the happy, golden hours away,
Nor wing the azure depths where mystery
Would lead them, on some bright, impassioned day.
For Nature hides beneath her lovely smiles,
The plan and purpose of her subtle wiles.

—Florence Holt Davison.

Volume LXIII November, 1935 Number 11

Our Policy for 1936

...

In 1908, The Stover Apiaries was founded by the late D. D. Stover. Through his untiring efforts and ability, he achieved the distinction of being one of the largest shippers of bees and queens in the world. Through his fair and square dealings and quality products he won the friendship of beekeepers everywhere. It was his endeavor at all times to produce better queens and get them to the customers in good condition on time.

The past year we shipped package bees to forty-three states and seven provinces of Canada and several foreign countries.

We wish to assure our many friends that the business will be carried on in the same manner in the future by the same employees who have been with the company for years. It will be our honest endeavor at all times to carry out these policies. We thank you for your past patronage and may we have the opportunity of serving you in the future?

...

The Stover Apiaries

Mayhew, Miss.

5 PER CENT DISCOUNT

30 Designs

BEAUTIFUL COLORS

ON ALL ORDERS FOR

Honey Labels

Received During

November

(and postpaid)

...

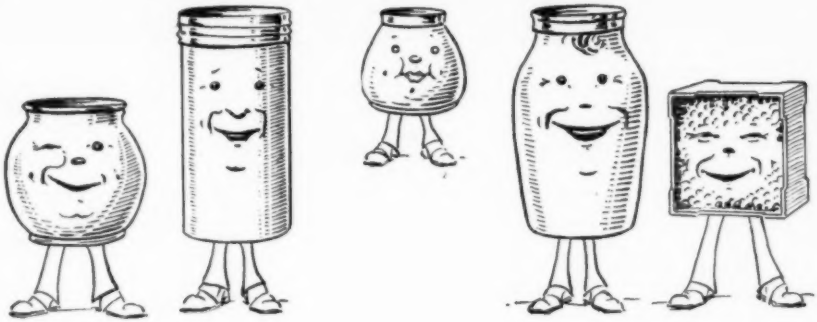
The A. I. Root Co.

Box G-4 Medina, Ohio

Gleanings in Bee Culture

A MERRY CHRISTMAS

VOL. LXIII DECEMBER, 1935 NO. 12



Let Us Do the Talking!

We've been around—through the hive, in the honey house and to MARKET and we know a FEW FACTS OURSELVES.

Because American Honey Institute is PROVING OUR FITNESS in the Daily Menu, we're in the grandstand and we want to stay there. Our popularity is increasing in commercial fields as well.

In March and April of 1934 (usually we are a drug on the market during these months) we were very prominent. Magazines with a circulation of more than ten million told their readers (mostly homemakers) of how good we are.

We were so good in the Chocolate Cake they made at Betty Crocker's Kitchen that from October 1 to November 9th, 1935, Gold Medal Foods, Inc., spent $250,000 on the advertising and merchandizing of that Cake. Remember, just because we were in the cake.

And how did we get into that cake?

Not by BALLYHOO but by the **everyday performance** of AMERICAN HONEY INSTITUTE.

And in October of the same year, more than two hundred food teachers all over the United States wrote and asked about us; they had heard that our nutritional values were described in the new book "100 Honey Helpings." American Honey Institute was good enough to write about us and because those values were true ones, AMERICAN MEDICAL ASSOCIATION put the SEAL OF ACCEPTANCE of their Foods Committee on the copy. You didn't know, did you, that American Honey Institute investigated and pushed and planned for four years to get that seal just to make us popular? Well, we knew it and we know many more reasons why we are becoming more popular.

You can know what we know, if you'll study the releases of American Honey Institute.

We beg you, beekeepers, as our managers to keep us before the public, active and happy.

If you don't, we'll wager that we'll have to take a seat back so far that we'll be ashamed to disclose our identity.

American Honey Institute
Madison, Wisconsin

(This page donated to American Honey Institute by Gleanings in Bee Culture.)